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<b>Started on</b>	Friday, 10 August 2018, 5:30 PM
<b>State</b>	Finished
<b>Completed on</b>	Friday, 10 August 2018, 5:33 PM
<b>Time taken</b>	2 mins 50 secs
<b>Marks</b>	0.00/284.00
<b>Grade</b>	<b>0.00</b> out of 10.00 (0%)

**Question 1**

Not answered

Marked out of 1.00

A 39-year-old multiparous woman complains of intermittent vaginal bleeding between normal menstrual periods that has been going on for the past 4 months. The bleeding is painless and occurs after sexual intercourse. She has had three cesarean sections, along with a tubal sterilization with her last delivery. She has a 30 pack-year history of cigarette smoking. She is currently in a monogamous sexual relationship but has had multiple sexual partners in the past. She has not been regular in her annual examinations. Her last Pap smear was 5 years ago. Which of the following is the most likely diagnosis?

Select one:

- ☐ Submucous leiomyoma
- ☐ Sarcoma botryoides
- ☐ Molar pregnancy
- ☐ Simple hyperplasia without atypia
- ☐ Cervical carcinoma

A history of intermittent vaginal bleeding between normal menses is suggestive of an anatomic lesion. The additional finding of painless postcoital bleeding makes one highly suspicious for a cervical lesion, such as cervical polyps or invasive cervical carcinoma (choice F). She has many risk factors for cervical neoplasia including multiple sexual partners and a long history of cigarette smoking. The long gap to the present from her last Pap smear is troublesome. She will need colposcopy and a cervical biopsy for diagnosis.

The correct answer is: Cervical carcinoma

**Question 2**

Not answered

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A 32-year-old G1 at 10 weeks gestation presents for her routine OB visit. She is worried about her pregnancy because she has a history of insulin-requiring diabetes since the age of 18. Prior to becoming pregnant, her endocrinologist diagnosed her with microalbuminuria. She has had photo laser ablation of retinopathy in the past. Which diabetic complication is most likely to be worsened by pregnancy?

Select one:

- ☐ . Benign retinopathy
- ☐ . Proliferative retinopathy
- ☐ . Gastroparesis
- ☐ . Nephropathy
- ☐ . Neuropathy

(Cunningham, pp 1180-1182.) The incidence of renal failure is almost 30% in type 1 diabetics and 4% to 20% in type 2 diabetics. Pregnancy has not been found to exacerbate or modify diabetic nephropathy. Diabetic neuropathy and gastroparesis may complicate some pregnancies, but pregnancy does not affect the overall disease process. Proliferative retinopathy is the one diabetic complication that pregnancy is thought to worsen.

The correct answer is: . Proliferative retinopathy

**Question 3**

Not answered

Marked out of 1.00

A 36-year-old woman, gravida 3, para 2, comes to the physician for a prenatal checkup. According to the last menstrual period and an ultrasonography performed at 16 weeks gestation, she is at 30 weeks gestation. She missed two antenatal appointments. She does not use tobacco, alcohol or drugs. Examination shows a fundal height of 26cm (9.8in). Fetal heart tones are heard by Doppler. Repeat ultrasonogram shows a biparietal diameter consistent with dates and an abdominal circumference below the 10th percentile. Which of the following could most likely be responsible for the observed fetal findings?

Select one:

- ☐ . Gross fetal anomalies
- ☐ . Inaccurate dates
- ☐ . Hypertension

- ☐ . Intrauterine infection
- ☐ . Chromosomal abnormalities

Check

Fetal growth restriction (FGR) can be symmetric and asymmetric. In symmetric growth restriction, the insult to the fetus begins before 28-weeks gestation and growth of both the head and the body is deficient. It is usually caused by fetal factors such as chromosomal abnormalities, congenital infections and congenital anomalies. Asymmetric FGR is a result of fetal adaptation to non-ideal maternal factors. Asymmetric FGR results from fetal redistribution of blood flow to vital organs, such as the brain, heart and placenta, as the expense of less vital organs, such as the abdominal viscera. Maternal factors such as hypertension, hypoxemia, cigarette smoking, vascular disease and toxic exposures can lead to asymmetric FGR. Asymmetric FGR has a better prognosis than symmetric FGR.

(Choice A) The fetus in this case has a normal biparietal diameter and a reduced abdominal circumference, which indicate asymmetric FGR. Congenital anomalies and chromosomal abnormalities usually result in symmetric growth restriction.

(Choice B) An infection by TORCH organisms would have resulted in a symmetric growth restriction, as they usually affect the fetus during early part of pregnancy. Bacterial infections late in pregnancy have not been strongly correlated with FGR.

(Choice D) Gross fetal anomalies are usually identifiable on ultrasound.

(Choice E) Ultrasonography performed between 16 and 20 weeks is the most accurate method for pregnancy dating, so it is unlikely that the abnormal measurements that ultrasonography is revealing now, as well as the discrepancy between fundal height and the age of pregnancy, are due to inaccurate dates.

Educational objective:

Asymmetric FGR is a result of a late exposure to a maternal factor that does not allow optimal fetal growth. It is characterized by a normal or almost normal head size and a reduced abdominal circumference. Maternal factors such as hypertension, smoking, hypoxia, vascular disease and toxic exposures are typical causes.

The correct answer is: . Hypertension

**Question 4**

Not answered

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A 34-year-old G2 at 36 weeks delivers a growth-restricted infant with cataracts, anemia, patent ductus arteriosus, and sensorineural deafness. She has a history of chronic hypertension, which was well controlled with methyldopa during pregnancy. She had a viral syndrome with rash in early pregnancy. What is the most likely causative agent?

Select one:

- ☐ . Toxoplasma gondii
- ☐ . Parvovirus
- ☐ . T. pallidum
- ☐ . Rubeola
- ☐ . Rubella virus

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Rubella is one of the most teratogenic agents known. Fetal manifestations of infection correlate with time of maternal infection and fetal organ development. If infection occurs in the first 12 weeks, 80% of fetuses manifest congenital rubella syndrome, while only 25% if occurs at the end of the second trimester. Congenital rubella syndrome includes one or more of the following: eye lesions, cardiac disease, sensorineural deafness, CNS defects, growth restriction, thrombocytopenia, anemia, liver dysfunction, interstitial pneumonitis, and osseous changes. Rubeola (measles) virus does not appear to have any teratogenic effect on the fetus.

The correct answer is: . Rubella virus

**Question 5**

Not answered

Marked out of 1.00

A 55-year-old postmenopausal woman shows evidence of temporal balding, clitoromegaly, and increased facial hair that began 6 months ago and had a rapid onset. She is noted to have a 5 cm unilateral, solid pelvic mass. Family history is negative for these findings. Which of the following is the most likely diagnosis?

Select one:

- ☐ Granulosa cell tumor
- ☐ Sertoli-Leydig cell tumor
- ☐ Benign cystic teratoma
- ☐ Gonadoblastoma
- ☐ Mucinous cystadenoma

Check

The case scenario describes a postmenopausal woman with virilization and a unilateral pelvic mass. Until proved otherwise, this must be assumed to be a hormonally functional ovarian tumor producing androgens, such as a Sertoli-Leydig cell tumor (choice O). Clitoromegaly is suggestive of high levels of peripheral androgens most often produced by an ovarian or adrenal tumor.

The correct answer is: Sertoli-Leydig cell tumor

**Question 6**

Not answered

Marked out of 1.00

A 20-year-old woman who works as a kindergarten teacher presents for her routine visit at 32 weeks. Her fundal height measures 40 cm. An ultrasound reveals polyhydramnios, an appropriately grown fetus with ascites and scalp edema. The patient denies any recent illnesses, but some of the children at her school have been sick recently. What is the most likely cause of the fetal findings?

Select one:

- ☐ . Toxoplasmosis gondii
- ☐ . Parvovirus
- ☐ . Hepatitis B
- ☐ . Influenza A
- ☐ . Cytomegalovirus

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Parvovirus is trophic for erythroid cells and can cause fetal anemia. Maternal infection can lead to fetal hydrops, abortion, or stillbirth. In susceptible adults 20% to 30% will acquire disease during school outbreaks. If a pregnant woman has diagnosis confirmed with IgM antibodies, ultrasound is done for fetal surveillance. If hydrops is diagnosed, fetal transfusion can be offered. One-third of fetuses will have spontaneous resolution of hydrops, and 85% of fetuses who receive transfusion will survive.

The correct answer is: . Parvovirus

**Question 7**

Not answered

Marked out of 1.00

During the evaluation of infertility in a 25-year-old female, a hysterosalpingogram showed evidence of Asherman syndrome. Which one of the following symptoms would you expect this patient to have?

Select one:

- ☐ . Metrorrhagia
- ☐ . Oligomenorrhea
- ☐ . Hypomenorrhea
- ☐ . Menorrhagia
- ☐ . Dysmenorrhea

Check

(Speroff, p 419.) Because of the decreased amount of functional endometrium, progressive hypomenorrhea (lighter menstrual flow) or amenorrhea is common. Oligomenorrhea is defined as infrequent, irregular uterine bleeding greater than 35 days apart, often attributed to anovulation. Ovulation is not affected in Asherman syndrome; therefore, ovulatory patients with Asherman syndrome may continue to have regular periods. The best diagnostic study is the hysterosalpingogram under fluoroscopy. Hysteroscopy with lysis of adhesions is the treatment of choice. Prophylactic antibiotics may improve success rates.

The correct answer is: . Hypomenorrhea

**Question 8**

Not answered

Marked out of 1.00

A 29-year-old G3P2 presents to the emergency center with complaints of abdominal discomfort for 2 weeks. Her vital signs are: blood pressure 120/70 mm Hg, pulse 90 beats per minute, temperature 36.94C, respiratory rate 18 breaths per minute. A pregnancy test is positive and an ultrasound of the abdomen and pelvis reveals a viable 16-week gestation located behind a normal-appearing 10×6×5.5 cm uterus. Both ovaries appear normal. No free fluid is noted. Which of the following is the most likely cause of these findings?

Select one:

- ☐ . Tubal abortion
- ☐ . Uterine rupture of prior cesarean section scar
- ☐ . Ectopic ovarian tissue
- ☐ . Primary peritoneal implantation of the fertilized ovum
- ☐ . Fistula between the peritoneum and uterine cavity

(Cunningham, pp 256-257, 265-266.) Almost all cases of abdominal pregnancy follow early rupture or abortion of a tubal pregnancy. Women with abdominal pregnancy are likely to be uncomfortable, but with vague gastrointestinal symptoms such as nausea, vomiting, flatulence, constipation, and diarrhea. Fetal survival is precarious with a perinatal loss of 75%. Fetal malformations and deformities, such as craniofacial asymmetry, limb deficiencies, and joint abnormalities, are present in 20% of fetuses. Expectant management carries the risk of sudden lifethreatening hemorrhage and is rarely if ever indicated if the diagnosis of abdominal pregnancy is made. Surgery is the usual treatment of abdominal pregnancy, but massive hemorrhage may ensue with separation and removal of the placenta. In general, the fetus should be delivered, the cord severed close to the placenta, and the abdomen closed. Leaving the placenta in situ can cause infectious abscess formation, adhesions, and intestinal obstruction. The use of methotrexate to hasten placental involution is controversial. Maternal mortality is increased substantively compared with normal pregnancy.

The correct answer is: . Tubal abortion



**Question 9**

Not answered

Marked out of 1.00

A healthy 42-year-old G2P1001 presents to labor and delivery at 30 weeks gestation complaining of a small amount of bright red blood per vagina which occurred shortly after intercourse. It started off as spotting and then progressed to a light bleeding. By the time the patient arrived at labor and delivery, the bleeding had completely resolved. The patient denies any regular uterine contractions, but admits to occasional abdominal cramping. She reports no pregnancy complications and a normal ultrasound done at 14 weeks of gestation. Her obstetrical history is significant for a previous low transverse cesarean section at term. Which of the following can be ruled out as a cause for her vaginal bleeding?

Select one:

- ☐ . Placental abruption
- ☐ . Subserous pedunculated uterine fibroid
- ☐ . Preterm labor
- ☐ . Placenta previa
- ☐ . Cervicitis

(Cunningham, pp 239, 614-615, 811-819, 962-963. Beckmann, pp 210-215.) During pregnancy, if placental implantation occurs over or in contact with a myoma, then there is an increased risk of placental abruption, preterm labor, and postpartum hemorrhage. A subserous pedunculated fibroid is attached to the uterus by a stalk and grows outward into the abdominal cavity; therefore, there is no vaginal bleeding associated with such a fibroid. Cervical inflammation (cervicitis) can render the cervix friable and able to bleed easily, especially after intercourse. Placental abruption occurs when there is a premature separation of the placenta from the uterine wall. While vaginal bleeding can be observed, the hemorrhage can be completely concealed, with the blood being trapped between the detached placenta and the uterine wall. Labor can be associated with vaginal bleeding caused by cervical dilation. Placenta previa occurs when the placenta is located over or in close proximity to the internal os of the cervix. When the lower uterine segment is formed or cervical dilation occurs in the presence of placenta previa, a certain degree of spontaneous placental separation and hemorrhage from disrupted blood vessels will occur. Uterine rupture most commonly occurs as a result of a separation of a previous cesarean scar. Most of the bleeding is into the abdominal cavity, but vaginal bleeding can be observed as well.

The correct answer is: . Subserous pedunculated uterine fibroid

**Question 10**

Not answered

Marked out of 1.00

A 75-year-old woman comes to the physician because of abdominal distension. She states that she always feels bloated and that she gets full quickly when eating. She has hypertension, for which she takes an angiotensin converting enzyme (ACE) inhibitor, and no other medical problems. Examination shows abdominal distension and a positive fluid wave. Pelvic examination reveals a large, nontender right adnexal mass. Abdominal CT scan demonstrates masses on both ovaries, ascites, and omental caking. CA-125 level is significantly elevated. Serum alpha-fetoprotein (AFP) and human chorionic gonadotropin (hCG) are negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Embryonal carcinoma
- ☐ . Choriocarcinoma
- ☐ . Cystic teratoma (dermoid)
- ☐ . Sertoli stromal cell tumor
- ☐ . Epithelial ovarian cancer

The lifetime incidence of ovarian cancer is 1.4% (1 in 70 women). Unfortunately, there are no early symptoms of ovarian cancer: presenting symptoms have to do with increasing tumor mass. This patient has abdominal discomfort and early satiety, which are often associated with ovarian cancer. Other symptoms that may be seen are fatigue, urinary frequency, and shortness of breath. The most common finding on examination is a pelvic mass, as this patient has. Masses, ascites, and evidence of tumor spread may be seen on CT scan. Roughly 80% of all ovarian cancers are derived from ovarian epithelium. The other major categories of ovarian tumors are germ cell tumors, sex cord stromal tumors, and metastatic tumors. The fact that this patient is 75 years old, has what appears to be ovarian cancer, and has an elevated serum CA-125 level (seen in approximately 80% of women with epithelial cancers), makes epithelial ovarian cancer most likely. Nongestational choriocarcinoma (choice A) of the ovary is extremely rare. Furthermore, in a patient with choriocarcinoma, the serum hCG should be elevated. Cystic teratoma (dermoid) (choice B) accounts for 25 to 40% of all ovarian neoplasms. However, most teratomas are diagnosed in premenopausal women and they do not usually

present as bilateral masses, ascites, and evidence of tumor spread with an elevated serum CA-125 level. Embryonal carcinoma (choice C) is a rare germ cell tumor. Serum AFP and hCG are often elevated with this tumor. Sertoli stromal cell tumor (choice E) is a rare sex cord stromal tumor that exhibits a male or testicular direction of differentiation.

The correct answer is: . Epithelial ovarian cancer

**Question 11**

Not answered

Marked out of 1.00

A 25-year-old G1 at 37 weeks presents to labor and delivery with gross rupture of membranes. The fluid is noted to be clear and the patient is noted to have regular painful contractions every 2 to 3 minutes lasting for 60 seconds each. The fetal heart rate tracing is reactive. On cervical examination she is noted to be 4 cm dilated, 90% effaced with the presenting part a -3 station. The presenting part is soft and felt to be the fetal buttock. A quick bedside ultrasound reveals a breech presentation with both hips flexed and knees extended. What type of breech presentation is described?

Select one:

- ☐ . Frank
- ☐ . Complete
- ☐ . Double footling
- ☐ . Incomplete, single footling
- ☐ . Cephalic presentation

(Cunningham, pp 568-579.) The patient described here has a fetus in the double footling breech presentation. In cases of frank breech presentations, the lower extremities are flexed at the hips and extended at the knees so that the feet lie in close proximity to the head and the fetal buttocks is the presenting part. With a complete breech presentation, one or both knees are flexed. In the case of an incomplete breech presentation, single footling, one hip is not flexed and one foot or knee is lowermost in the birth canal. Because of the risk of a prolapsed cord, it is generally recommended that fetuses with footling breech presentations undergo delivery by cesarean section. External cephalic version is a procedure whereby the presentation of the fetus is changed from breech to cephalic by manipulating the fetus externally through the abdominal wall. It is not indicated in this patient because the membranes are ruptured and the risk of cord prolapse is great. In addition, this procedure generally requires that the uterus be soft and relaxed, which is not the case with this patient in labor. Internal podalic version is a procedure used in the delivery of a second twin. It involves turning the fetus by inserting a hand into the uterus, grabbing both feet, and delivering the fetus by breech extraction.

The correct answer is: . Frank

**Question 12**

Not answered

A 29-year-old G3P2 black woman in the thirty-third week of gestation is admitted to the emergency room because of acute abdominal pain that has been increasing during the past 24 hours. The pain is severe and is radiating

Marked out of 1.00

from the epigastrium to the back. The patient has vomited a few times and has not eaten or had a bowel movement since the pain started. On examination, you observe an acutely ill patient lying on the bed with her knees drawn up. Her blood pressure is 100/70 mm Hg, her pulse is 110 beats per minute, and her temperature is 38.8C (101.8F). On palpation, the abdomen is somewhat distended and tender, mainly in the epigastric area, and the uterine fundus reaches 31 cm above the symphysis. Hypotonic bowel sounds are noted. Fetal monitoring reveals a normal pattern of fetal heart rate (FHR) without uterine contractions. On ultrasonography, the fetus is in vertex presentation and appropriate in size for gestational age; fetal breathing and trunk movements are noted, and the volume of amniotic fluid is normal. The placenta is located on the anterior uterine wall and no previa is seen. Laboratory values show mild leukocytosis (12,000 cells per mL); a hematocrit of 43; mildly elevated serum glutamicoxaloacetic transaminase (SGOT), serum glutamic-pyruvic transaminase (SGPT), and bilirubin; and serum amylase of 180 U/dL. Urinalysis is normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Acute cholecystitis
- ☐ . Severe preeclamptic toxemia
- ☐ . Acute appendicitis
- ☐ . Acute pancreatitis
- ☐ . Acute degeneration of uterine leiomyoma

(Reece, pp 1142-1145.) The most probable diagnosis in this case is acute pancreatitis. The pain caused by a myoma in degeneration is more localized to the uterine wall. Low-grade fever and mild leukocytosis may appear with a degenerating myoma, but liver function tests are usually normal. The other obstetric cause of epigastric pain, severe preeclamptic toxemia (PET), may exhibit disturbed liver function (sometimes associated with the HELLP syndrome [hemolysis, elevated liver enzymes, low platelets]), but this patient has only mild elevation of blood pressure and no proteinuria. Acute appendicitis in pregnancy is one of the more common nonobstetric causes of abdominal pain. Symptoms of acute appendicitis in pregnancy are similar to those in nonpregnant patients, but the pain is more vague and poorly localized and the point of maximal tenderness moves to the right upper quadrant with advancing gestation. Liver function tests are normal with acute appendicitis. Acute cholecystitis may cause fever, leukocytosis, and pain of the right upper quadrant with abnormal liver function tests, but amylase levels

would be elevated only mildly, if at all, and pain would be less severe than described in this patient. The diagnosis that fits the clinical description and the laboratory findings is acute pancreatitis. This disorder may be more common during pregnancy, with an incidence of 1 in 100 to 1 in 10,000 pregnancies. Cholelithiasis, chronic alcoholism, infection, abdominal trauma, some medications, and pregnancy-induced hypertension are known predisposing factors. Patients with pancreatitis are usually in acute distress—the classic finding is a person who is rocking with knees drawn up and trunk flexed in agony. Fever, tachypnea, hypotension, ascites, and pleural effusion may be observed. Hypotonic bowel sounds, epigastric tenderness, and signs of peritonitis may be demonstrated on examination.

Leukocytosis, hemoconcentration, and abnormal liver function tests are common laboratory findings in acute pancreatitis. However, the most important laboratory finding is an elevation of serum amylase levels, which appears 12 to 24 hours after onset of clinical disease. Values may exceed 200 U/dL (normal values are 50 to 160 U/dL). A useful diagnostic tool in the pregnant patient with only modest elevation of amylase values is the amylase-creatinine ratio. In patients with acute pancreatitis, the ratio of amylase clearance to creatinine clearance is always greater than 5% to 6%.

Treatment considerations for the pregnant patient with acute pancreatitis are similar to those in nonpregnant patients. Intravenous hydration, nasogastric suction, enteric rest, and correction of electrolyte imbalance and of hyperglycemia are the mainstays of therapy. Careful attention to tissue perfusion, volume expansion, and transfusions to maintain a stable cardiovascular performance are critical. Gradual recovery occurs over 5 to 6 days.

The correct answer is: . Acute pancreatitis

**Question 13**

Not answered

Marked out of 1.00

A 19-year-old primigravid woman at 34 weeks gestation comes to the physician because of diffuse headache, right upper quadrant pain and visual disturbances. During her last visit two weeks ago she was found to have an elevated blood pressure and 1+ proteinuria. She was advised to follow-up closely and sent home on bed rest. Her blood pressure today is 176/120 mm Hg and pulse is 86/min. Physical examination shows 2+ pitting edema in both legs and right upper quadrant tenderness. Fetal heart tones are audible by Doppler. Urinalysis shows 3+ proteinuria. Serum aspartate aminotransferase (AST) is 88 U/L and alanine aminotransferase (ALT) is 80 U/L. Serum creatinine now is 1.4 mg/dl. Which of the following is the most likely cause of her right upper quadrant pain?

Select one:

☐ . Cystic duct obstruction

- ☐ . Rupture of hepatic adenoma
- ☐ . Peptic ulcer disease
- ☐ . Distention of liver capsule
- ☐ . Common bile duct obstruction

Check

The patient described is suffering from severe preeclampsia, which is characterized by hypertension ( $> 160/110$ ), proteinuria ( $> 5\text{g}$  on 24h urine), oliguria, pulmonary edema, thrombocytopenia and elevated liver enzymes. These signs are also part of the HELLP (hypertension, elevated liver enzymes, low platelets) syndrome. Preeclampsia has effects on multiple organ systems. The liver can be involved in preeclampsia by centrilobular necrosis, hematoma formation and the formation of thrombi in the portal capillary system. These processes can cause swelling of the liver with distention of the hepatic (Glisson's) capsule and resultant right upper quadrant pain as the peritoneum is innervated by somatic nerves that provide localized sensation of pain.

(Choices A & B) Obstruction of the common bile duct and cystic duct would cause right upper quadrant pain, fever and jaundice.

(Choice C) Symptoms of acute viral hepatitis include anorexia, nausea and vomiting, fatigue and jaundice.

(Choice D) Peptic ulcer disease causes episodic gnawing epigastric pain associated with the sensation of gastric regurgitation and, occasionally, with bleeding (hematemesis or melena).

(Choice E) Rupture of a hepatic adenoma can occur during pregnancy. Rupture of such an adenoma would result in peritonitis (tenderness and rebound) and fluid resuscitation would be required.

Educational objective:

One of the effects of preeclampsia is damage to the liver that can cause right upper quadrant pain due to stretching of the hepatic (Glisson's) capsule.

The correct answer is: . Distention of liver capsule

#### Question 14

Not answered

Marked out of 1.00

A 26-year-old primigravid woman at 32 weeks gestation comes to the physician because of swelling of her hands and feet. Her previous prenatal check-up was normal. Blood pressure is 150/95 mmHg, and five minutes later following lateral rest her blood pressure is 140/95 mmHg. Physical examination shows 2+ pitting edema of the legs and a macular eruption on

the cheekbones. Optic fundi show no abnormalities. Laboratory studies are as follows:

Urinalysis: 4+ protein, RBC casts,

Urine protein: 8 g/24hr,

Uric acid: 5 mg/dl,

BUN: 28 mg/dl,

Serum creatinine: 2.1 mg/dl,

Serum electrolytes,

liver function tests and coagulation studies are within normal limits.

A serum antinuclear antibody (ANA) test is positive in high titers. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Hemolytic uremic syndrome
- ☐ . Glomerulonephritis
- ☐ . Chronic hypertension with superimposed pre-eclampsia
- ☐ . Pregnancy induced hypertension
- ☐ . HELLP syndrome

Check

The patient presents with hypertension, proteinuria and edema, which are the hallmarks of preeclampsia. However, the gross proteinuria associated with a malar rash and a strongly positive ANA should raise suspicions for systemic lupus erythematosus (SLE). It must be noted, however, that ANA titers may be weakly positive in normal pregnancy. The distinction between SLE and preeclampsia during pregnancy is crucial because both conditions respond to different therapeutic approaches. In fact, treating preeclampsia with corticosteroids can aggravate it. If the patient is known to have lupus before pregnancy, the appearance of proteinuria during pregnancy may represent lupus nephritis, preeclampsia or both. Signs that favor lupus as the origin of the proteinuria include a rapid aggravation of the proteinuria, associated clinical signs of active SLE, and the presence of RBC casts in the urinalysis which indicates true nephritis rather than simple protein loss. If the proteinuria persists after delivery, renal biopsy is then indicated and will most likely be diagnostic of lupus nephritis. SLE, however, rarely presents for the first time during pregnancy.

(Choice A) The hypertension in this patient is probably not simply pregnancy-induced because of the magnitude of proteinuria, the malar rash and the positive ANA titer.



(Choice B) Chronic hypertension with superimposed preeclampsia is defined as hypertension that occurs before pregnancy or before 20 weeks gestation with subsequent development of proteinuria. The previous antenatal records of this patient were all normal until she presented these new symptoms, which makes this diagnosis unlikely.

(Choice D) This patient does not have thrombocytopenia or microangiopathic hemolytic anemia, which are two hallmarks of HUS.

(Choice E) HELLP syndrome is a variant of preeclampsia characterized by Hemolysis, Elevated Liver enzymes and Low Platelet count.

Educational objective:

Hypertension in a pregnant female in the setting of massive proteinuria, a malar rash, and a strongly positive ANA titer is most likely due to systemic lupus erythematosus. Glomerulonephritis in general will cause proteinuria, hematuria and RBC casts.

The correct answer is: . Glomerulonephritis

### Question 15

Not answered

Marked out of 1.00

A 16-year-old girl presents to the emergency department complaining of fever, chills, abdominal pain, and vaginal bleeding. She gives a history of unprotected sexual activity with her 17-year-old boyfriend over the past several months. Her last menstrual period was 8 weeks ago. She reports having a dilatation and curettage procedure at an unlicensed abortion clinic recently to try to abort the pregnancy. Her temperature is 38.7C (101.7F), heart rate is 120/min, and blood pressure is 100/70 mmHg. Pelvic examination reveals cervical motion tenderness, tissue in the internal os, and foul-smelling vaginal discharge. Urine is positive for  $\beta$ -human chorionic gonadotropin. Which of the following is the most likely diagnosis?

Select one:

- ☐ Threatened abortion
- ☐ Ectopic pregnancy
- ☐ Pelvic abscess
- ☐ Septic abortion
- ☐ Vaginal laceration

Check

This patient most likely has a septic abortion. Common presenting symptoms include fever, malaise, chills, abdominal or pelvic pain, and vaginal bleeding with or without retained products of conception. Septic abortions do not

commonly complicate spontaneous abortions, but can occur as complications of illegally performed induced abortions, foreign bodies, invasive gynecologic procedures, or incomplete spontaneous abortions.

Answer A is incorrect. While ectopic pregnancy may present with vaginal bleeding and abdominal or pelvic pain, the internal cervical os would be closed in an ectopic pregnancy, which contrasts with the patient's presentation. Also, an ectopic pregnancy rarely presents with fevers and chills, symptoms more consistent with septic abortion.

Answer B is incorrect. A pelvic abscess is a complication of pelvic inflammatory disease (PID) or other upper genital tract infection. While a pelvic abscess would produce high fevers and abdominal pain, it is unlikely to produce vaginal bleeding. Additionally, the internal os would be closed.

Answer D is incorrect. A threatened abortion presents as pregnancy with painless vaginal bleeding. The internal os is closed. Some of these women will ultimately lose the pregnancy, while a majority will continue to carry the pregnancy successfully to full term.

Answer E is incorrect. A vaginal laceration would produce vaginal bleeding and vaginal pain. It is unlikely to produce a fever unless it is accompanied by genital tract infection.

The correct answer is: Septic abortion

**Question 16**

Not answered

Marked out of 1.00

An 18-year-old patient presents to you for evaluation because she has not yet started her period. On physical examination, she is 5ft 7 in tall. She has minimal breast development and no axillary or pubic hair. On pelvic examination, she has a normally developed vagina. A cervix is visible. The uterus is palpable, as are normal ovaries. Which of the following is the best next step in the evaluation of this patient?

Select one:

- ☐ . Draw her blood for TSH, FSH, and LH levels.
- ☐ . Order an MRI of the brain to evaluate the pituitary gland.
- ☐ . Test her sense of smell.
- ☐ . Prescribe a progesterone challenge to see if she will have a withdrawal bleed.
- ☐ . Draw her blood for a karyotype.

Check

(Scott, pp 603-604. Speroff, pp 450-451.) Testicular feminization is a syndrome of androgen insensitivity in genetic males, characterized by a normal 46,X genotype, normal female phenotype during childhood, tall stature, and “normal” breast development with absence of axillary and pubic hair. Breast development (gynecomastia) occurs in these males because high levels of circulating testosterone (which cannot act at its receptor) are aromatized to estrogen, which then acts on the breast. The external genitalia develop as those of a female because testosterone cannot masculinize them, while the Müllerian structures are absent because of testicular secretion of Müllerian-inhibiting factor in utero. Gonadal dysgenesis (eg, 45,X Turner syndrome) is characterized by short stature and absence of pubertal development; in these girls the ovaries are either absent or streak gonads that are nonfunctional. In either case, estrogen production is possible, and therefore isosexual pubertal development does not occur. Kallmann syndrome (hypogonadotropic hypogonadism), the most likely diagnosis in this patient, should be suspected in an amenorrheic patient of normal stature with delayed or absent pubertal development, especially when associated with the classic finding of anosmia. Testing the sense of smell with coffee or perfume is a simple way to screen for this disorder. These individuals have a structural defect of the CNS involving the hypothalamus and the olfactory bulbs (located in close proximity to the hypothalamus) such that the hypothalamus does not secrete GnRH in normal pulsatile fashion, if at all. Other causes of minimal or absent pubertal development with normal stature include malnutrition; anorexia nervosa; severe systemic

The correct answer is: . Test her sense of smell.

**Question 17**

Not answered

Marked out of 1.00

A 40-year-old G3P2 obese patient at 37 weeks presents for her routine OB visit. She has gestational diabetes that is controlled with diet. She reports that her fasting and postprandial sugars have all been within the normal range. Her fetus has an estimated fetal weight of 6.5 lb by Leopold maneuvers. Which of the following is the best next step in her management?

Select one:

- ☐ . Cesarean delivery at 39 weeks to prevent shoulder dystocia
- ☐ . Kick counts and routine return OB visit in 1 week
- ☐ . Induction of labor at 38 weeks
- ☐ . Administration of insulin to prevent macrosomia
- ☐ . Weekly biophysical profile

(Cunningham, pp 1175-1176. ACOG, Practice Bulletin 30.) In general, women with gestational diabetes, who do not require insulin, seldom need early delivery or other interventions. There is no consensus on whether antepartum fetal testing is necessary in women with well-controlled gestational diabetes. Antepartum fetal testing is recommended for women with preexisting diabetes mellitus and those who require insulin therapy. There is no good evidence to support routine delivery before 40 weeks when glucose control is good and no other complications supervene. Cesarean delivery may be considered in women with gestational diabetes if the estimated fetal weight is 4500 g or more. Insulin therapy is indicated if diet cannot keep fasting glucose below 105 and 2-hour values below 120.

The correct answer is: . Kick counts and routine return OB visit in 1 week

**Question 18**

Not answered

Marked out of 1.00

A 22-year-old obese woman presents to the obstetrics-gynecology clinic complaining of mild abdominal pain and vaginal bleeding. The patient states that she is sexually active with her boyfriend and uses condoms "basically all the time." She states that her last menstrual period was 7 weeks ago and insists that her periods have always been irregular, occurring every 3 to 4 months. She denies any past medical history but states that she used to have a problem with excess facial hair prior to starting low-dose oral contraceptive pills. Which of the following is the best next step in diagnosis?

Select one:

- ☐ Measure thyroid-stimulating hormone level

- ☐ Measure urine  $\beta$ -human chorionic gonadotropin level
- ☐ Endometrial biopsy
- ☐ Progesterone challenge
- ☐ Measure prothrombin time/partial thromboplastin time

Check

Pregnancy (intrauterine or ectopic) must always be ruled out in a woman of childbearing age with abnormal uterine bleeding. Ectopic pregnancy is a diagnosis that cannot be missed because it can result in maternal death, with shock secondary to tubal rupture. Although some patients with ectopic pregnancy present with hemodynamic instability, more than 50% of patients are asymptomatic before tubal rupture and do not have an identifiable risk factor for ectopic pregnancy. Patients may simply present with abnormal vaginal bleeding and abdominal pain.

Answer A is incorrect. Endometrial biopsy should be performed in all women older than 35 years who have abnormal uterine bleeding. Although not a common cause of abnormal uterine bleeding, endometrial carcinoma must always be ruled out in that age group. This patient is at a much lower risk for endometrial cancer given her age and, therefore, an endometrial biopsy is inappropriate at this point.

Answer B is incorrect. Coagulopathies are not a common cause of uterine bleeding but can be considered after other more frequent possibilities have been ruled out.

Answer C is incorrect. Hypothyroidism can cause heavy uterine bleeding and can be part of the work-up; however, it is not the first step in the diagnostic evaluation of this patient.

Answer E is incorrect. The most common cause of vaginal bleeding in this patient's age group is anovulatory bleeding. The administration of a progesterone challenge is important in determining the etiology of anovulatory bleeding because a negative result indicates insufficient estrogen production, whereas a positive result indicates adequate endogenous estrogen production. However, urine or serum  $\beta$ -hCG measurement is the first step in evaluating this patient to rule out pregnancy.

Answer F is incorrect. Given the history of obesity, hirsutism, and irregular menses, polycystic ovarian disease is high on the differential diagnosis. An ultrasound of the ovaries is therefore appropriate to evaluate for ovarian cysts; however, it is not the first step in evaluation of this patient because pregnancy should be ruled out first.

The correct answer is: Measure urine  $\beta$ -human chorionic gonadotropin level

**Question 19**

Not answered

Marked out of 1.00

A 39-year-old G3P3 complains of severe, progressive secondary dysmenorrhea and menorrhagia. Pelvic examination demonstrates a tender, diffusely enlarged uterus with no adnexal tenderness. Results of endometrial biopsy are normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Leiomyoma
- ☐ . Uterine sarcoma
- ☐ . Endometriosis
- ☐ . Endometritis
- ☐ . Adenomyosis

(Katz, pp 448-480.) Adenomyosis is a condition in which normal endometrial glands grow into the myometrium. Symptomatic disease primarily occurs in multiparous women over the age of 35 years, compared to endometriosis, in which onset is considerably younger. Patients with adenomyosis complain of dysmenorrhea and menorrhagia, and the classical examination findings include a tender, symmetrically enlarged uterus without adnexal tenderness. Although patients with endometriosis can have similar complaints, the physical examination of these patients more commonly reveals a fixed, retroverted uterus, adnexal tenderness and scarring, and tenderness along the uterosacral ligaments. Leiomyoma is the most common pelvic tumor, but the majority are asymptomatic and the uterus is irregular in shape. Patients with endometritis can present with abnormal bleeding, but endometrial biopsies show an inflammatory pattern. Uterine sarcoma is rare, and presents in older women with postmenopausal bleeding and nontender uterine enlargement.

The correct answer is: . Adenomyosis

**Question 20**

Not answered

Marked out of 1.00

A 62-year-old woman presents for annual examination. Her last spontaneous menstrual period was 9 years ago, and she has been reluctant to use postmenopausal hormone replacement because of a strong family history of breast cancer. She now complains of diminished interest in sexual activity. Which of the following is the most likely cause of her complaint?

Select one:

- ☐ . Decreased vaginal length
- ☐ . Decreased ovarian function
- ☐ . Untreatable sexual dysfunction
- ☐ . Alienation from her partner
- ☐ . Physiologic anorgasmia

(Lobo, pp 438-443.) Sexuality continues despite aging. However, there are physiologic changes that must be recognized. Diminished ovarian function may lower libido, but estrogen replacement therapy (ERT) may help. Sexual dysfunction can be physiologic (eg, from lowered libido). As with younger patients, however, lowered libido is in most cases treatable. Because aging does not alter the capacity for orgasm or produce vaginismus, a further evaluation should be initiated if these symptoms persist after a postmenopausal woman is placed on ERT.

The correct answer is: . Decreased ovarian function

**Question 21**

Not answered

Marked out of 1.00

A 23-year-old woman, gravida 2, para 1, underwent first-trimester sonography at 10 weeks to rule out twins. A 6-cm, unilateral, fluid-filled, smoothwalled, unilocular pelvic mass was found. The mass is separate from the uterus and is essentially unchanged on serial sonograms. However, it is variable in location, being noted anterior, posterior, and lateral to the uterus. Which of the following is the most likely diagnosis?

Select one:

- ☐ Paraovarian cyst of Morgagni
- ☐ Hydrosalpinx
- ☐ Pregnancy
- ☐ Tubo-ovarian abscess
- ☐ Chronic pelvic inflammatory disease (PID)

The case scenario describes a hydatid cyst of Morgagni (choice A), also known as a paraovarian cyst. They are thin-walled, pedunculated, benign cysts attached to the tubal fimbria. They are of paramesonephric origin and are usually small and asymptomatic, but they can grow to 10 cm in size; they can be very mobile because of their long stalk and can even undergo torsion of the pedicle.

The correct answer is: Paraovarian cyst of Morgagni

**Question 22**

Not answered

Marked out of 1.00

A 33-year-old woman presents to the physician because of a malodorous vaginal discharge that has been present for the past 3 days. She has no vaginal or vulvar irritation, and has no urinary complaints. Pelvic examination demonstrates a copious, gray discharge with a pH of 5.0. When 1 drop of potassium hydroxide (KOH) is added to a sample of the discharge there is an intense amine odor. A normal saline wet preparation is performed that demonstrates epithelial cells whose borders and nuclei are obscured by the presence of bacteria. Which of the following is the most likely pathogen?

Select one:

- ☐ Chlamydia trachomatis
- ☐ Gardnerella vaginalis
- ☐ Trichomonas vaginalis
- ☐ Candida albicans



☐ Lactobacillus species

Check

There is still an incomplete understanding of the exact pathophysiology underlying bacterial vaginosis (BV). However, it is believed that an increase in the levels of anaerobic bacteria coupled with overabundance of *Gardnerella vaginalis* are involved. The symptoms of BV include vaginal odor and an increased vaginal discharge. Local discomfort is uncommon. Physical examination will often demonstrate a ; copious vaginal discharge that has a pH greater than 4.7. There will be an intense, amine (fishy) odor when potassium hydroxide (KOH) is added to the discharge (a positive "whiff test"). Finally, the normal saline wet preparation is characterized by "clue cells" (epithelial cells whose borders and nuclei are obscured by the presence of bacteria). The treatment is with metronidazole.

*Candida albicans* (choice A) is the causative organism i of yeast infections. These infections are characterized by a thick, "cottage cheese" vaginal discharge. Physical examination reveals the vaginal discharge, as well as evidence of local inflammation. The KOH preparation shows pseudohyphae. This patient has findings consistent with BV and not yeast infection.

*Chlamydia trachomatis* (choice B) is the causal organism for chlamydial cervicitis. *Chlamydia* infection is characterized by a vaginal discharge with local irritation, Physical examination will often demonstrate a mucopurulent cervical discharge and an erythematous and friable cervix. The normal saline wet preparation usually shows the presence of numerous white blood cells.

*Lactobacillus* species (choice D) are considered normal inhabitants of the vaginal flora. It is believed that the replacement of *Lactobacillus* species by *Gardnerella vaginalis* and other bacteria leads to BV.

*Trichomonas vaginalis* (choice E) causes trichomoniasis, which is characterized by vaginal and vulvar irritation. On normal saline wet preparation, *Trichomonas vaginalis* will be seen as a motile, flagellated organism, somewhat larger than a white blood cell.

The correct answer is: *Gardnerella vaginalis*

### Question 23

Not answered

Marked out of 1.00

Select the most likely diagnosis.

- A. Child abuse
- B. Foreign body
- C. *Trichomonas* vaginitis
- D. Bacterial vaginosis
- E. Candidiasis

A 25-year-old woman presents to the physician's office for evaluation of foul-smelling vaginal discharge. She has been sexually active with a new partner for the past month. Physical examination reveals a thin, whitish-gray vaginal discharge. There is no discharge from the cervical os, and there is no adnexal or cervical motion tenderness. The remainder of the examination is normal. The pH of the vaginal fluid is 5.0. When KOH is added to vaginal discharge on a slide, an amine-like ("fishy") odor is perceived. A wet mount of the fluid reveals many epithelial cells with adherent bacteria. No polymorphonuclear cells are seen.

Select one:

- ☐ . B
- ☐ . C
- ☐ . E
- ☐ . D
- ☐ . A

Check

This patient's history, physical examination, and findings on wet mount are consistent with a diagnosis of bacterial vaginosis. The diagnosis of bacterial vaginosis (BV) is made when three of the four Amsel criteria are met. The Amsel criteria are as follows:

- 1) Thin, gray-white vaginal discharge
- 2) Vaginal pH > 4.5
- 3) A positive "whiff" test upon addition of KOH to the vaginal discharge
- 4) "Clue cells" (vaginal epithelial cells with adherent coccobacilli) on wet mount

This patient meets all four Amsel criteria, and therefore the diagnosis of BV is definitive. Treatment with metronidazole is appropriate.

Educational objective:

Know how to differentiate Bacterial vaginosis, Trichomonas and Candidiasis. Bacterial vaginosis is diagnosed based on the presence of 3 of 4 Amsel criteria.

The correct answer is: . D

#### Question 24

A 38-year-old Caucasian female presents to the office complaining of lethargy, weight gain and fatigue. She denies headaches, pruritus or urine

Not answered

Marked out of 1.00

discoloration. She just gave birth 2 months ago via vaginal delivery; her baby is in good health and receives formula nutrition. Her delivery was complicated by vaginal bleeding that required blood transfusion, and postpartum endometritis that rapidly responded to antibiotics. She has not had any menstrual periods following delivery. Physical examination shows sparse pubic hair, dry skin and delayed tendon reflexes. Urinalysis shows no glucose or ketones. Which of the following is most likely to be responsible for this patient's condition?

Select one:

- ☐ . Infiltrative disorder
- ☐ . Neoplasia
- ☐ . Autoimmune tissue destruction
- ☐ . Drug effect
- ☐ . Ischemic necrosis

In this patient, lactation failure cannot be ruled out since her child is formula feeding; hence, prolactin deficiency is possible. Furthermore, she has features of hypogonadism and hypothyroidism. Her presentation is thus very suggestive of hypopituitarism following pregnancy. The two most common causes of hypopituitarism in the postpartum period are Sheehan's syndrome and lymphocytic hypophysitis. Sheehan's syndrome develops due to ischemic necrosis of the pituitary gland (sometimes even the hypothalamic nuclei) because of peri-partum bleeding.

(Choices B and E) Lymphocytic hypophysitis is less common than Sheehan's syndrome, and is not related to peri-partum hemorrhage. Patients typically present with headaches, visual disturbances and pituitary failure. Differentiation of lymphocytic hypophysitis from a pituitary neoplasm is sometimes difficult.

(Choice A) Another possible cause of hypopituitarism is an infiltrative disorder such as sarcoidosis; however, patients with such conditions do not present in the postpartum period. Diabetes insipidus more commonly occurs with infiltrative disorders than pituitary tumors. Overt diabetes insipidus is uncommon in Sheehan's syndrome.

Educational Objective:

Patients with Sheehan's syndrome present in the postpartum period with failure to lactate and other features of pituitary hormonal deficiency. Overt diabetes insipidus is uncommon.

The correct answer is: . Ischemic necrosis

**Question 25**

Not answered

Marked out of 1.00

A 30-year-old G3P3 is being evaluated for urinary urgency, urinary frequency, and dysuria. She also complains of pain with insertion when attempting intercourse. She frequently dribbles a few drops of urine after she finishes voiding. She has had three full-term spontaneous vaginal deliveries. Her last baby weighed more than 9 lb. She had multiple sutures placed in the vaginal area after delivery of that child. She also has a history of multiple urinary tract infections since she was a teenager. On pelvic examination, she has a 1-cm tender suburethral mass. With palpation of the mass, a small amount of blood-tinged pus is expressed from the urethra. Which of the following is the most likely cause of this patient's problem?

Select one:

- ☐ . Urethral fistula
- ☐ . Urethral eversion
- ☐ . Urethral diverticulum
- ☐ . Urethral polyp
- ☐ . Urethral stricture

(Katz, pp 549-550.) Urethral diverticula occur in 3% to 4% of all women. The typical symptoms include urinary frequency, urgency, dysuria, hematuria, and dyspareunia. Frequently, patients will have a history of frequent UTIs, dribbling, or incontinence. A urethral diverticulum is often palpable as a mass on the anterior vaginal wall under the urethra. Although urethral polyps, eversion, fistula, and stricture may present with similar symptoms, there is no suburethral mass present.

The correct answer is: . Urethral diverticulum

**Question 26**

Not answered

Marked out of 1.00

A 25-year-old woman, gravida 2, para 2 is 4days status post cesarean section and develops a temperature to 100.7 F (38.2 C). She had her cesarean section when she went into unstoppable preterm labor with a breech fetus. She had an uncomplicated postoperative course until this temperature elevation. Her pulse is 100/min, blood pressure is 110/70 mm Hg, and respirations are 16/min. There is discoloration and cyanosis around the incision. The area around the incision is completely numb. There is no uterine tenderness on bimanual exam. Which of the following is of the most concern

in this patient?

Select one:

- ☐ . Endometritis
- ☐ . Necrotizing fasciitis
- ☐ . Mastitis
- ☐ . Wound infection
- ☐ . Preeclampsia

Check

Necrotizing fasciitis is a rare but potentially fatal complication of abdominal wound infection. It typically occurs in patients who are immunocompromised or who have diabetes or cancer. It is a clinical diagnosis that is characterized by discoloration and cyanosis around the incision with numbness of the area. It can be polymicrobial in nature, but anaerobes are frequently involved. It is considered to be a potentially fatal condition and aggressive treatment with broad-spectrum antibiotics and surgical debridement is essential.

Endometritis (choice A) is characterized by abdominal pain, malaise, foul-smelling lochia, temperature elevation, and uterine tenderness on bimanual examination. This patient does not have uterine tenderness on bimanual examination and her disease process appears focused around the incision site. Therefore, endometritis would not be the process of most concern in this patient. Mastitis (choice B) is an infection of the breast that is characterized by breast pain, elevated temperature, erythema and edema of the breast. This patient's process is not involving the breast; therefore, mastitis would not be of concern here. Preeclampsia (choice D) is characterized by hypertension, edema, and proteinuria. The cure for preeclampsia is delivery of the fetus. This patient has no findings concerning for preeclampsia and is postpartum, which makes the development of preeclampsia much less likely. Wound infection (choice E) is certainly of concern here. However, this patient has features to her presentation that suggest a process that goes beyond simple wound infection. The discoloration of the wound edges and cyanosis, along with the loss of sensation around the wound point toward the more worrisome process of necrotizing fasciitis.

The correct answer is: . Necrotizing fasciitis

### Question 27

Not answered

Marked out of 1.00

A 32-year-old woman is brought to the operating room for diagnostic laparoscopy because of chronic pelvic pain and chronic right upper quadrant pain. She has had these pains for the past 2 years. Her bowel and bladder

function are normal. Past medical history is significant for two episodes of gonorrhea. She drinks one beer per day. Laboratory studies show: Urine hCG: negative, Haematocrit: 39%, leukocyte count: 8,000/mm<sup>3</sup>, platelet count: 200,000/mm<sup>3</sup>, AST: 12U/L, ALT:14U/L. Intraoperatively, the patient is noted to have dense adhesions involving her fallopian tubes, ovaries, and uterus. The fallopian tubes themselves appear clubbed and occluded. A survey of her upper abdomen is remarkable for perihepatic adhesions extending from the liver surface to the diaphragm. The liver otherwise appears unremarkable. Which of the following is the most likely diagnosis for her right upper quadrant pain?

Select one:

- ☐ Hepatocellular carcinoma
- ☐ Alcoholic cirrhosis
- ☐ Wolff-Parkinson-White syndrome
- ☐ Fitz-Hugh-Curtis syndrome
- ☐ Hepatitis

Check

Fitz-Hugh-Curtis syndrome occurs when patients with pelvic inflammatory disease (PID) develop perihepatic inflammation and adhesions extending from the liver surface to the diaphragm. This syndrome is believed to occur in 1 to 10% of patients with acute PID. Symptoms may include right upper quadrant pain and pleuritic pain, though many cases are asymptomatic. It is believed to be caused by hematogenous dissemination or transperitoneal dissemination of *Chlamydia trachomatis* or *Neisseria gonorrhoeae*, though other organisms may be involved.

Alcoholic cirrhosis (choice A) is not the most likely diagnosis given that this patient's liver appears unremarkable except for the perihepatic adhesions. A cirrhotic liver usually appears fibrotic, scarred, and shrunken, although alcoholics may have an enlarged liver because of fatty infiltration. Furthermore, one beer per day is unlikely to lead to cirrhosis in an otherwise healthy 32-year-old woman.

Hepatitis (choice C) will often present as a systemic illness. Usually there are alterations in the liver function tests (ALT and AST). This patient has pelvic pain and right upper quadrant pain only, normal liver function tests, and laparoscopic findings most consistent with prior PID and Fitz-Hugh-Curtis syndrome.

Hepatocellular carcinoma (choice D) is one of the most common cancers in the world. Often patients who develop these tumors will have cirrhosis and significant weight loss and ascites. This patient has the perihepatic adhesions only.

In Wolff-Parkinson-White syndrome (choice E), patients may develop paroxysmal supraventricular tachycardia because of the presence of an accessory muscle bundle that bypasses the AV node of the heart and produces a reentry loop. This patient has no complaints of cardiac arrhythmia.

The correct answer is: Fitz-Hugh-Curtis syndrome

**Question 28**

Not answered

Marked out of 1.00

A 19-year-old female comes to the physician because she has not had a menstrual period. She experienced normal breast development through puberty but has yet to have a period. She has no other complaints. She has no medical problems. Examination shows the patient to be tall with long arms and big hands. The breasts are normal-appearing except that the nipples are immature and the areolae are pale. Pelvic examination shows scant pubic hair with a blind-ended vaginal pouch. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Asherman syndrome
- ☐ . Polycystic ovarian syndrome
- ☐ . Turner syndrome
- ☐ . Testicular feminization syndrome
- ☐ . Kallmann syndrome

Check

This patient has a presentation and findings that are most consistent with androgen insensitivity syndrome (also called testicular feminization syndrome). These patients are genotypically male (46, XY) but phenotypically female because they have a defect that prevents normal androgen receptor function. The androgen receptor gene is located on the X chromosome and various defects in the gene (e.g., absence of the gene or abnormalities in the androgen binding domain of the receptor) can lead to this syndrome. Patients with androgen insensitivity are amenorrheic and have no internal female structures. Testes rather than ovaries are present. These

patients also have minimal axillary and pubic hair. They do experience abundant breast development at puberty, as testosterone is unable to suppress the formation of breast tissues. These patients also tend to be very tall with big hands and feet and long arms. Testes should be removed after pubertal development is completed, as many of these patients will develop gonadal malignancies after puberty. Asherman syndrome (choice A) is amenorrhea caused by intrauterine adhesions. These adhesions typically develop after curettage and infection of the uterus. Kallmann syndrome (choice B) is amenorrhea caused by hypogonadotropic hypogonadism. It is associated with anosmia, color blindness, and facial deformities. Patients have normal female structures. Patients with polycystic ovarian syndrome (choice C) usually have the characteristics of oligomenorrhea, hirsutism, infertility, and obesity. This patient has none of these characteristics. Patients with Turner syndrome (choice E) have a 45, X genotype. They are phenotypically females, often with small stature, short necks, and wide chests. This patient has a eunuchoid phenotype.

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The correct answer is: . Testicular feminization syndrome



**Question 29**

Not answered

Marked out of 1.00

A 48-year-old woman with five children complains of urinary incontinence with coughing and stair climbing. She likely has genuine stress urinary incontinence if which of the following is true?

Select one:

- ☐ Loss of urine occurs when intravesical pressure exceeds maximal urethral pressure.
- ☐ Loss of urine occurs in relation to anxiety or depression.
- ☐ Loss of urine is due to increased intravesical pressure associated with bladder distention.
- ☐ Loss of urine is secondary to involuntary bladder contractions.
- ☐ Loss of urine is associated with a strong desire to void immediately.

Check

GSI occurs when there is immediate involuntary loss of urine with increased intravesical pressure greater than maximal urethral pressure in the absence of detrusor contractions. These women can usually stop the flow of urine by voluntary contraction of the muscles that close the urethra. Loss of urine with a strong desire to void immediately suggests urge incontinence, often occurring as a result of detrusor contractions. Loss of urine associated with seemingly unrelated conditions should raise the suspicion of a drug-associated incontinence. Maximal bladder distention and greatly increased bladder capacity suggest a diagnosis of an atonic bladder with overflow incontinence. (Scott et al., 2003, pp. 845–846, 849–856)

The correct answer is: Loss of urine occurs when intravesical pressure exceeds maximal urethral pressure.

**Question 30**

Not answered

Marked out of 1.00

A 59-year-old G4P4 presents to your office complaining of losing urine when she coughs, sneezes, or engages in certain types of strenuous physical activity. The problem has gotten increasingly worse over the past few years, to the point where the patient finds her activities of daily living compromised secondary to fear of embarrassment. She denies any other urinary symptoms such as urgency, frequency, or hematuria. In addition, she denies any problems with her bowel movements. Her prior surgeries include tonsillectomy and appendectomy. She has adult-onset diabetes and her blood sugars are well controlled with oral Metformin. The patient has no history of any gynecologic problems in the past. She has four children who were all delivered vaginally. Their weights ranged from 8 to 9 lb. Her last delivery was forceps assisted. She had a third-degree laceration with that

birth. She is currently sexually active with her partner of 25 years. She has been menopausal for 4 years and has never taken any hormone replacement therapy. Her height is 5 ft 6 in, and she weighs 190 lb. Her blood pressure is 130/80 mmHg. Based on the patient's history, which of the following is the most likely diagnosis?

Select one:

- ☐ . Overflow incontinence
- ☐ . Vesicovaginal fistula
- ☐ . Detrusor instability
- ☐ . Urinary tract infection
- ☐ . Stress incontinence

Check

(Beckmann, pp 292-298, 393. Katz, pp 551-557.) This patient's history is most consistent with a diagnosis of urinary stress incontinence. Genuine stress incontinence is a condition of immediate involuntary loss of urine when intravesical pressure exceeds the maximum urethral pressure in the absence of detrusor activity. Patients with this condition complain of bursts of urine loss with physical activity or a cough, laugh, or sneeze. The cause of stress incontinence is structural, attributed to a cystocele or urethrocele. In cases of overflow incontinence, patients experience a continuous loss of a small amount of urine and associated symptoms of fullness and pressure. Overflow incontinence is usually caused by obstruction or loss of neurologic control. Women with detrusor instability/dyssynergia have a loss of bladder inhibition and complain of urgency, frequency, and nocturia. Vesicovaginal fistulas are uncommon and usually occur as a complication of benign gynecologic procedures. Women with this complication usually present with a painless and continuous loss of urine from the vagina. Sometimes the uncontrolled loss of urine is not continuous but related to a change in position or posture. In the case of urinary tract infections, women usually present with symptoms of frequency, urgency, nocturia, dysuria, and hematuria.

The correct answer is: . Stress incontinence

### Question 31

Not answered

Marked out of 1.00

A 22-year-old woman, gravida 4, para 3, at 38 weeks' gestation comes to the labor and delivery ward with a gush of fluid. Sterile speculum examination reveals a pool of fluid that is nitrazine positive and forms ferns when viewed under the microscope. The fetal heart rate is in the 150s and reactive. An ultrasound demonstrates that the fetus is in the breech position. A cesarean

delivery is performed. During the operation, the physician, who has received no recent immunizations, is stuck with a needle that had been used on the patient. Which of the following is this physician at greatest risk of contracting?

Select one:

- ☐ . HIV
- ☐ . Hepatitis C
- ☐ . Hepatitis B
- ☐ . Syphilis
- ☐ . Scabies

Check

Studies have shown that surgeons can readily acquire hepatitis B virus from patients. The risk of acquiring hepatitis B is significantly higher than the risk for HIV, and somewhat higher than the risk for hepatitis

Thus, it is essential that health care workers be immunized against the hepatitis B virus. The immunization schedule is for administration of the vaccine at 1, 2, and 6 months. The Centers for Disease Control and Prevention recommends that postvaccination testing for antibodies be performed to identify an adequate response to the immunization. Individuals who do not demonstrate the formation of antibodies after the immunizations are given should be tested for hepatitis B surface antigen to ensure that they haven't already been infected. With immunization, the risk of acquiring hepatitis B from a needle stick injury is significantly lessened. HIV (choice A) can be transmitted through needle-stick injury. However, the risk of this transmission is less than that of hepatitis B in individuals who have not been immunized. Hepatitis C (choice C) appears to be more transmissible through needle-stick injury than HIV, but less transmissible than hepatitis B. However, because there is no immunization for hepatitis C available yet, and because the infection is so widespread in the population, the risk of transmission is of grave concern. Scabies (choice D) is a skin parasite that is transmitted through physical contact. Syphilis (choice E) is a sexually transmitted disease that is most often transmitted through sexual contact. Transmission through needle-stick injury is not a primary route.

The correct answer is: . Hepatitis B

**Question 32**

Not answered

Marked out of 1.00

A 30-year-old G2P2 woman comes to the physician with fatigue, mood swings, irritability, breast tenderness, abdominal bloating, and headaches that occur monthly. The symptoms are worse just before her menses and resolve by the third day of her menstrual cycle. The symptoms interfere with her daily activities, including her proficiency at work. The patient's only current medication is a multivitamin. She uses spermicidal foam and condoms for birth control. Her menses are regular. Her sister was diagnosed with hypothyroidism and takes levothyroxine. Examination shows no abnormalities. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ . Migraine
- ☐ . Normal menstrual cycle
- ☐ . Menopausal transition
- ☐ . Premenstrual syndrome
- ☐ . Somatization

This woman's presentation is most consistent with premenstrual syndrome (PMS). The most common physical manifestations of PMS are bloating, fatigue, headaches, and breast tenderness. Psychological symptoms may include anxiety, mood swings, difficulty concentrating, decreased libido, and irritability. Symptoms usually begin 1-2 weeks prior to menses and regress around the time of menstrual flow. Symptoms are then typically absent until after the next ovulation. Premenstrual dysphoric disorder (PMDD) is a severe variant of PMS, with prominent irritability and anger symptoms. Many patients with PMS/PMDD will readily recognize the relation of symptoms to their menstrual cycle. When symptoms are irregular or vary in severity, it may be helpful for the patient to keep a menstrual diary for 2-3 months and note any associated symptoms. PMS is confirmed when symptoms occur repeatedly and predictably in the days prior to menstruation and resolve with the onset of menses. If symptoms occur irregularly or throughout the menstrual cycle, a primary mood disorder is more likely (Choice A).

(Choice B) Hypothyroidism, usually due to autoimmune thyroiditis (Hashimoto thyroiditis), is commonly seen in clinical settings. Associated symptoms can occur in virtually any organ system, and fatigue, mood swings, and bloating are common. However, breast tenderness is less common and symptoms do not typically show a clear relation to menses.

(Choice C) Perimenopausal women commonly develop irregular menstruation, often associated with mood swings, irritability, and somatic symptoms. Perimenopausal women with underlying PMS may develop worsening of symptoms until menses cease. However, menopause is unlikely in this relatively young patient with a regular menstrual cycle .

(Choice D) There is significant overlap between migraine and PMS, and the menstrual cycle is a common trigger for migraine symptoms. Many patients with migraine will have associated affective symptoms. Breast tenderness, however, is not a common feature of migraine.

(Choice E) Some physical discomfort and fluctuation in mood may occur with normal menstruation, but symptoms severe enough to impair function are not normal.

(Choice G) Somatization refers to a group of disorders characterized by physical complaints that cannot be explained by or are out of proportion to an underlying anatomic or physiologic abnormality. Somatization can be seen frequently in the outpatient setting, especially in young women. However, this patient's symptoms fit a well-defined pattern for PMS and somatization is unlikely.

Educational objective:

Common symptoms of premenstrual syndrome (PMS) include mood swings, irritability, fatigue, bloating, and breast tenderness. Symptoms occur in the 1-2 weeks prior to menses and resolve with onset of menstrual flow. The diagnosis is often readily apparent and can be confirmed with a menstrual diary. PMS can be differentiated from normal menstruation by the degree of distress and impaired functioning.

The correct answer is: . Premenstrual syndrome

**Question 33**

Not answered

Marked out of 1.00

A 26-year-old woman develops acute lower abdominal pain and vaginal bleeding. While in the bathroom she passes a cast of tissue composed of clot material and then collapses. She is brought to the hospital, where a physical examination reveals a soft, tender mass in right adnexa and pouch of Douglas. Histologic examination of the tissue passed in the bathroom reveals blood clots and decidualized tissue. No chorionic villi or trophoblastic tissue are present. Which of the following conditions is most likely present in this individual?

Select one:

- ☐ . Ectopic pregnancy
- ☐ . Endometrial hyperplasia
- ☐ . Aborted intrauterine pregnancy
- ☐ . Partial hydatidiform mole
- ☐ . Complete hydatidiform mole

(Kumar, pp 1053-1054. Rubin, pp 814-815.) Ectopic pregnancy is a potentially life-threatening condition if it is not treated by removal before rupture and hemorrhage with fatal exsanguination. The most common location for extrauterine implantation is the fallopian tube (85% of cases), with rare implantation in the ovary or abdomen. If the tubal implantation has existed for 1 to 4 weeks, the  $\beta$ -hCG test result is likely to be negative; thus a negative result does not exclude pregnancy. It is always worthwhile to repeat a laboratory test when the result is unexpected. Tubal pregnancy is not uncommon and should always be considered if endometrial samples suggest gestational change without chorionic villi.

The correct answer is: . Ectopic pregnancy

**Question 34**

Not answered

Marked out of 1.00

A 39-year-old woman presents with new onset of a bloody discharge from her right nipple. Physical examination reveals a 1-cm freely movable mass that is located directly beneath the nipple. Sections from this mass reveal multiple fibrovascular cores lined by several layers of epithelial cells. Atypia is minimal. The lesion is completely contained within the duct and no invasion into underlying tissue is seen. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Benign phyllodes tumor
- ☐ . Paget disease
- ☐ . Papillary carcinoma
- ☐ . Ductal papilloma
- ☐ . Intraductal carcinoma

(Kumar, pp 1080-1083. Rubin, pp 848-849 .) Malignant carcinomas of the breast may be either noninvasive or invasive. Noninvasive carcinomas (carcinoma in situ) may be located within the ducts (intraductal carcinoma) or within the lobules (lobular carcinoma in situ). There are several variants of intraductal carcinoma, including comedocarcinoma, cribriform carcinoma, and intraductal papillary carcinoma. Comedocarcinoma grows as a solid intraductal sheet of cells with a central area of necrosis. It is frequently associated with the erb B2/neu oncogene and a poor prognosis. Cribriform carcinoma is characterized by round, ductlike structures within the solid intraductal sheet of epithelial cells, while intraductal papillary carcinoma has a predominant papillary pattern. In contrast, invasive malignancies are characterized by infiltration of the stroma, which may produce a desmoplastic response within the stroma (scirrhous carcinoma). Infiltrating ductal carcinomas also produce yellow-white chalky streaks that result from the deposition of elastic tissue around ducts (elastosis). Other patterns of invasion that produce specific results include infiltration of cells in a single file in infiltrating lobular carcinoma and mucin production in colloid carcinoma.

The correct answer is: . Ductal papilloma

**Question 35**

Not answered

Marked out of 1.00

A 22-year-old woman presents with mouth sores, sore throat, vaginal discharge, fever, and myalgia. She has no other medical problems. She takes oral contraceptive pills. She is in a monogamous relationship and states that her partner occasionally uses barrier contraception. Physical examination reveals a temperature of 38.3 C (101 F), cervical and inguinal

lymphadenopathy, exudative pharyngitis, and multiple ulcers on the oral mucosa, the labia, and cervix. The vaginal discharge is profuse, and Gram stain indicates many neutrophils. Which of the following is the most likely diagnosis?

Select one:

- ☐ Chancroid
- ☐ Herpes simplex virus
- ☐ Condyloma acuminatum
- ☐ Syphilis
- ☐ Lymphogranuloma venereum

Check

Primary herpes infection can cause systemic symptoms of fever and myalgia and can affect the pharynx, urethra, external genitalia, and cervix. Although no effective therapy is available, acyclovir is used to reduce morbidity of the disease and decrease the incidence of recurrences.

Chancroid (choice A) does not cause systemic symptoms and leads to a soft, non-indurated, painful ulcer. The etiologic agent is *Haemophilus ducreyi*, which requires growth on an enriched chocolate medium. Management consists of oral erythromycin.

Condyloma (choice B) causes characteristic large, soft, fleshy, cauliflower-like excrescences around the vulva, urethral orifice, anus, and perineum. The causative agent is the human papilloma virus (HPV). Most HPV lesions resolve spontaneously. Frequently used therapies include cryosurgery, application of caustic agents, electrodesiccation, surgical excision, and laser ablation. Topical podophyllin has also been used with some success.

Lymphogranuloma venereum (choice D) leads to fever, arthritis, pericarditis, painless papules, and erythema nodosum. This is a sexually transmitted infection caused by *Chlamydia trachomatis* strains. A frequent presenting symptom is painful inguinal lymphadenopathy. Azithromycin may be of utility in treatment.

Syphilis (choice E) usually causes a single ulcer and does not produce exudative pharyngitis. Clinical manifestations of syphilis include primary, secondary, and tertiary syphilis. The primary chancre usually begins as a single painless papule, which rapidly becomes eroded and usually, but not always, is indurated with a characteristic cartilaginous consistency on palpation of the edge and base of the ulcer. Penicillin G is the drug of choice for all stages of syphilis.



The correct answer is: Herpes simplex virus

**Question 36**

Not answered

Marked out of 1.00

A 58-year-old G6P4Ab2 diabetic woman who weighs 122.6 kg (270 lb) has her first episode of vaginal bleeding in 5 years. Her physician performs an outpatient operative hysteroscopy and dilatation and curettage (D&C). Which of the following is an indication for the procedure and the most likely diagnosis?

Select one:

- ☐ endometrial cancer because of her high parity
- ☐ endometrial cancer because of her obesity
- ☐ cervical cancer because of her age
- ☐ cervical cancer because of her diabetes
- ☐ ovarian cancer because of her obesity

Check

Obesity, advanced age, and hepatic disease are associated with an increased risk of endometrial adenocarcinoma. While postmenopausal bleeding is most commonly caused by atrophic changes in the genital tract, cancer must be considered. Cervical cytology and examination of endometrial histology are absolutely indicated. The risk of endometrial cancer is increased approximately threefold in diabetic women, and obese women have a three- to fourfold increased risk. High parity is a risk factor for cervical cancer; low parity is a risk factor for ovarian and endometrial cancer. Postmenopausal bleeding is a sign of ovarian cancer only if the malignancy secretes estrogen to stimulate the endometrium. An office endometrial biopsy has a sensitivity of about 90%. If postmenopausal bleeding persists, a D&C with hysteroscopy should be done. AD&C alone samples about 50% of the endometrium. For this reason, many gynecologists are performing a hysteroscopy and directed endometrial biopsy in addition to a D&C. (Hoskins et al., 2005, p. 824)

The correct answer is: endometrial cancer because of her obesity

**Question 37**

Not answered

Marked out of 1.00

A 20-year-old, G1 PO, woman at 35 weeks gestation comes to the hospital because of regular uterine contractions. She noticed a passage of clear fluid per vagina for the past 24 hours. She has no other symptoms. Her pregnancy thus far has been uncomplicated. Her temperature is 38.2 C (100.7 F), blood pressure is 120/68 mmHg, pulse is 110/min and respirations are 17/min. Speculum examination shows a closed cervix and clear fluid pooling in the

vaginal fornix. The pH of the fluid is 7.5. Fetal heart monitoring shows a rate of 165/min and uterine contractions occurring every 3-4 minutes. Initial laboratory studies show:

Hemoglobin: 10.2 g/L;

Platelets: 198,000/mm<sup>3</sup>;

Leukocyte count: 18,500/mm<sup>3</sup>;

Neutrophils: 86%;

Lymphocytes: 14%.

Which of the following is the most likely diagnosis?

Select one:

- ☐ . Abruptio placenta
- ☐ . Trichomonas vaginitis
- ☐ . Intraamniotic infection
- ☐ . Normal labor
- ☐ . Urinary tract infection

Check

The patient described has experienced spontaneous preterm premature rupture of the membranes (PPROM), which is defined as a rupture of the amniotic membranes before 37 weeks of gestation but with the onset of labor, as evidenced by her regular uterine contractions. Normal amniotic fluid pH is 7.0 to 7.5, while normal vaginal pH is 3.8 to 4.5, so the more neutral pH of the fluid described in this patient indicates it is of amniotic origin. One of the risks associated with PPROM is intraamniotic infection. Intraamniotic infection (chorioamnionitis) should be suspected in mothers presenting with prolonged or premature rupture of the membranes, fever and any one of the following findings: maternal tachycardia (> 100/min), fetal tachycardia (> 160/min), maternal leukocytosis (> 15,000/mm<sup>3</sup>), uterine tenderness or foul-smelling amniotic fluid.

(Choice A) Abruptio placenta commonly presents with bleeding from the vagina; though, a subset of placental abruptions is concealed and does not cause clinical bleeding. Abdominal or back pain, uterine tenderness and abnormal uterine contractions are typical. Fetal distress due to poor placental perfusion may be evident.

(Choice C) A urinary tract infection may cause leukocytosis if the infection was ascending. Dysuria would likely be present. Given the PPROM, intraamniotic infection is more likely.

(Choice D) Trichomonas vaginitis is not associated with obstetric complications other than a possible association with early labor.

(Choice E) Maternal leukocytosis ( $>15,000/\text{cmm}$ ) with fever and fetal tachycardia are not components of normal labor.

Educational objective:

Intraamniotic infection should be suspected in the setting of prolonged or premature rupture of the membranes when maternal fever, leukocytosis, uterine tenderness or tachycardia is detected. Fetal tachycardia is another feature of chorioamnionitis.

The correct answer is: . Intraamniotic infection

**Question 38**

Not answered

Marked out of 1.00

A 26-year-old woman comes to the physician's office for evaluation of a vulvar ulcer that she noticed two days ago. Initially she had a small painless papule that later became ulcerated. Upon further questioning she reluctantly admits to using sex to obtain drugs. She also reports using oral contraceptives to prevent pregnancy. On vulvar examination there is a 2cm ulcer with a non-exudative base and a raised, indurated margin. Painless bilateral inguinal lymphadenopathy is present. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Syphilis
- ☐ . Herpes genitalis
- ☐ . Basal cell carcinoma
- ☐ . Chancroid
- ☐ . Granuloma inguinale

Check

This patient's high risk sexual behavior and physical exam findings raise strong suspicion for primary syphilis. Two to three weeks after infection with *Treponema pallidum*, patients develop a painless papule at the site of inoculation. This papule ulcerates, forming a chancre with punched-out base and raised, indurated margins. Most lesions occur on the genitalia, and are accompanied by painless inguinal adenopathy. If left untreated, the chancre of primary syphilis heals spontaneously within one to three months.

(Choices B & C) The genital ulcers seen in chancroid and herpes genitalis differ from the ulcer of primary syphilis in that both are painful. Chancroid is also characterized by a ulcers with a deep, purulent base and painful

lymphadenopathy. Genital herpes presents with multiple vesicles following a prodrome of burning and pruritus. Within days, these vesicles become painful ulcers.

(Choice D) Like syphilis, Granuloma inguinale (Donovanosis) presents with painless genital ulcers. These ulcers have a red, beefy base and there is no associated adenopathy. Unlike primary syphilis, the ulcer of granuloma inguinale does not resolve without antibiotic treatment.

(Choice E) The greatest risk factor for basal cell carcinoma (BCC) is sun exposure. The most common sites of BCC are the face and trunk. Involvement of the genitalia is rare. BCC lesions appear as pearlycolored papules covered with telangiectasias.

Educational objective:

The genital ulcers seen in chancroid and herpes genitalis differ from the ulcer of primary syphilis in that both are painful.

The correct answer is: . Syphilis

**Question 39**

Not answered

Marked out of 1.00

A healthy 59-year-old woman with no history of urinary incontinence undergoes vaginal hysterectomy and anteroposterior repair for uterine prolapse, large cystocele, and rectocele. Two weeks postoperatively, she presents to your office with a new complaint of intermittent leakage of urine. What is the most likely cause of this complaint following her surgery?

Select one:

- ☐ . Rectovaginal fistula
- ☐ . Stress urinary incontinence
- ☐ . Detrusor instability
- ☐ . Overflow incontinence
- ☐ . Vesicovaginal fistula

(Katz, pp 680-682.) Many patients who have uterine prolapse or a large protuberant cystocele will be continent because of urethral obstruction caused by the cystocele or prolapse. In fact, at times these patients may need to reduce the prolapse in order to void. Following surgical repair, if the urethrovesical junction is not properly elevated, stress urinary incontinence may result. This incontinence may present within the first few days to weeks following surgery. Rectovaginal fistula would present with passage of stool from vagina. Vesicovaginal fistula would present with continuous leakage of urine from the vagina. Detrusor instability would have been present prior to her surgery.

The correct answer is: . Stress urinary incontinence

**Question 40**

Not answered

Marked out of 1.00

A 24-year-old woman delivered a healthy baby by vaginal delivery at 36 weeks gestation. She had a prolonged premature rupture of the membranes, and mid forceps application was required during delivery. On the second postpartum day she complained of fever and chills. She cannot breast-feed because her "nipples are tender". Her temperature is 38.5C (101.3F), blood pressure is 120/55 mmHg and pulse is 92/min. Bimanual examination shows tender uterus and foul-smelling lochia. Her nipples are cracked but without surrounding erythema or warmth. Physical examination otherwise shows no abnormalities. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Deep venous thrombosis

- ☐ . Normal postpartum
- ☐ . Aspiration pneumonia
- ☐ . Puerperal mastitis
- ☐ . Endometritis

Check

The patient described is experiencing postpartum endometritis. A puerperal infection should be suspected if a woman experiences a fever greater than 38 C ( 1 00.4 F) outside of the first 24 hours postpartum. Risk factors for endometritis include, but are not limited to prolonged rupture of the membranes (> 24 hours), prolonged labor (> 12 hours), cesarean section and use of intrauterine pressure catheters or fetal scalp electrodes. This patient has at least two of these risk factors. Clinically, endometritis is characterized by fever, uterine tenderness, foul smelling lochia and leukocytosis. Broad spectrum antibiotics are required to treat this typically polymicrobial infection .

(Choice A) While the normal postpartum period is associated with persistent vaginal discharge (lochia), this discharge should steadily resolve over the first two weeks and should never be foul-smelling.

(Choice B) Puerperal mastitis occurs in breastfeeding mothers and can begin with a sore or fissured nipple, but this diagnosis would be unlikely this soon after delivery.

(Choices D & E) Deep venous thrombosis and aspiration pneumonia would be associated with physical examination findings consistent with each of these diagnoses. The physical examination in this patient is normal other than the abnormalities such as uterine tenderness and foul-smelling lochia that indicate a puerperal infection rather than one of these conditions.

Educational objective:

Endometritis is characterized clinically by fever and uterine tenderness in the postpartum period and is often associated with foul-smelling lochia. Risk factors include prolonged ROM, prolonged labor, operative vaginal delivery and caesarian section among others.

The correct answer is: . Endometritis

#### Question 41

Not answered

Marked out of 1.00

A 20-year-old woman, gravida 1, para 0, at 36 weeks gestation comes to the physician because of diffuse headache, blurry vision and epigastric pain. She has no previous history of hypertension, renal disease or neurologic disease. Her mother has a history of migraine headaches. Her temperature is 37.2 C

(98.9 F), blood pressure is 200/126 mmHg and pulse is 80/min. Physical examination shows bilateral lower extremity edema. Deep tendon reflexes are exaggerated. Laboratory studies show:

Blood urea nitrogen (BUN) 23 mg/dl,

Serum creatinine 1.6 mg/dl,

Blood glucose 98 mg/dl.

Urinalysis:

Protein: 4+,

Blood: negative,

Glucose: negative,

WBC: 1-2/hpf,

RBC: 1-2/hpf,

Casts: none.

Fetal heart tones are heard by Doppler. While evaluating her, she suddenly develops generalized tonic-clonic convulsions. Which of the following is the most accurate diagnosis of this new event?

Select one:

- ☐ . Brain abscess
- ☐ . Eclamptic seizures
- ☐ . Hypertensive encephalopathy
- ☐ . Viral encephalitis
- ☐ . Uremic encephalopathy

Check

This patient was admitted to the hospital because she has severe preeclampsia, which subsequently evolved to eclampsia with the development of tonic-clonic seizures. Severe preeclampsia is defined as a BP greater or equal to 160/110 and the presence of one or more of the following signs:

1. Oliguria ( < 500mU24hr)
2. Altered consciousness, headache, scotoma or blurred vision
3. Pulmonary edema or cyanosis
4. Epigastric or right upper quadrant pain
5. Significant thrombocytopenia
6. Microangiopathic hemolysis
7. Altered liver function tests
8. Elevated serum creatinine levels

### 9. IUGR, or oligohydramnios.

Patients with severe preeclampsia are at greater risk of developing eclampsia. However, 25% of eclamptic patients have a background of only mild disease. In eclampsia, cerebral vasospasm results in cerebral hypoxemia and generalized tonic-clonic seizures. 25% of cases of eclampsia occur before labor, 50% occur during labor and 25% occur following delivery. Increased reflex irritability is a worrisome sign in patients with preeclampsia and it usually heralds the occurrence of seizures.

(Choice A) Eclampsia is a specialized subset of hypertensive encephalopathy that occurs in the setting of preeclampsia. Hypertensive encephalopathy in general is characterized clinically by headache, nausea and vomiting, visual disturbances and seizures.

(Choice B) Uremic encephalopathy is unlikely as this patient's renal function is nearly normal.

(Choice C) Viral encephalitis typically presents with new-onset psychiatric symptoms, seizures and cognitive and motor deficits.

(Choice E) Brain abscess may present with headache and seizures. Focal neurologic deficits are also commonly observed, and hypertension and proteinuria are not typical features.

(Choice F) Intracerebral hemorrhage (stroke) typically presents with rapid-onset loss of consciousness, vomiting and focal neurologic deficits. Hypertension is one of the most important causes of stroke .

(Choice G) Migraine headaches are classically preceded by a visual aura and are accompanied by nausea, vomiting, photophobia and phonophobia. Proteinuria and hypertension are not typical.

Educational objective:

Eclampsia is diagnosed when unexplained convulsions occur in the setting of preeclampsia.

The correct answer is: . Eclamptic seizures



**Question 42**

Not answered

Marked out of 1.00

A 22-year-old woman delivers a 7-lb male infant at 40 weeks without any complications. On day 3 of life, the infant develops respiratory distress, hypotension, tachycardia, listlessness, and oliguria. What is the most likely cause of the infant's illness?

Select one:

- ☐ . Hepatitis B
- ☐ . Group B streptococcus
- ☐ . L. monocytogenes
- ☐ . Herpes simplex
- ☐ . Cytomegalovirus

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Early-onset group B streptococcus disease occurs within 1 week of birth. Signs of the disease include respiratory distress, apnea, and shock. Late-onset disease usually occurs after 7 days and manifests as meningitis. Listeriosis during pregnancy can be asymptomatic or cause a febrile illness that is confused with influenza, pyelonephritis, or meningitis. L. monocytogenes, the causative bacteria is usually acquired through food-borne transmission from manure-contaminated cabbage, pasteurized milk, and fresh Mexican-style cheeses. Fetal infection is characterized by granulomatous lesions with microabscesses. Early onset neonatal sepsis is a common manifestation of listeriosis during pregnancy, and late onset listeriosis occurs after 3 to 4 weeks as meningitis, which is similar to group B streptococci. However, listeriosis infection is much less common.

The correct answer is: . Group B streptococcus

**Question 43**

Not answered

Marked out of 1.00

A 65-year-old woman presents with a pruritic red, crusted, sharply demarcated map-like lesion involving a large portion of her labia majora. Histologic sections from this lesion reveal individual anaplastic tumor cells infiltrating the epidermis. Distinctive clear spaces are noted between these anaplastic cells and the surrounding normal epithelial cells. These malignant cells stain positively for mucin and negatively with S100. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Squamous cell carcinoma
- ☐ . Extramammary Paget disease
- ☐ . Clear cell adenocarcinoma
- ☐ . Malignant melanoma
- ☐ . Sarcoma botryoides

(Kumar, pp 1015-1016, 1171-1175. Rubin, pp 788-790.) Two rare vulvar malignancies, characterized by malignant cells that individually infiltrate the epidermis, are Paget disease and malignant melanoma. Paget disease, which manifests grossly as pruritic, red, crusted, sharply demarcated map-like areas, histologically, reveals single anaplastic tumor cells infiltrating the epidermis. These cells are characterized by having clear spaces ("halos") between them and the adjacent epithelial cells. These malignant cells stain positively with PAS or mucicarmine stains. Paget disease of the vulva (extramammary Paget disease) is similar to Paget disease of the nipple except that 100% of cases of Paget disease of the nipple are associated with an underlying ductal carcinoma of the breast, while vulvar lesions are most commonly confined to the skin. Malignant melanoma of the vulva may resemble Paget disease both grossly and microscopically; however, these malignant cells stain positively with a melanin stain or an S100 immunoperoxidase stain. In contrast to these rare vulvar malignancies, squamous cell carcinoma is the most common histologic type of vulvar cancer. Clear cell adenocarcinoma and sarcoma botryoides are two rare vaginal malignancies. Clear cell carcinoma is associated with previous maternal DES exposure, while sarcoma botryoides is a type of rhabdomyosarcoma found in girls.

The correct answer is: . Extramammary Paget disease

**Question 44**

A 14-year-old Caucasian female presents to clinic for a routine check-up. She

Not answered

Marked out of 1.00

complains that her menstrual cycles are irregular and that her menses last seven to ten days. She underwent menarche one year ago and her last menstrual period was two weeks ago. She eats a balanced diet and works out in a gym on weekends. Her past medical history is insignificant and her BMI is 25 kg/m<sup>2</sup>. Which of the following is the most likely cause of this patient's complaints?

Select one:

- ☐ . Endometrial stimulation by progesterone
- ☐ . Increased FSH secretion
- ☐ . Complex atypical hyperplasia of the endometrium
- ☐ . Absent ovulation
- ☐ . Endometrial atrophy

Check

In most women aged 20 to 40 years, menstrual cycles are consistent and last between 24 to 35 days, with menstrual flow duration ranging from two to seven days. In the first five to seven years after menarche and the last ten years before menopause, menstrual cycle variability is common. Regular ovulation is likely when the menstrual cycle is predictable, whereas anovulation is likely in cycles that vary markedly or are unusually short or long. Therefore, this adolescent's clinical presentation is strongly suggestive of absent ovulation.

(Choice A) In the normal ovulatory cycle, estrogen stimulates endometrial proliferation and progesterone stimulates endometrial secretory changes in preparation for implantation. When progesterone is withdrawn, menstrual bleeding occurs. Therefore, endometrial stimulation by progesterone would not normally cause irregular or lengthy menses.

(Choice B) Complex atypical hyperplasia of the endometrium is associated with prolonged exposure to estrogen without opposing progesterone. This condition is most common in obese older women or those women who received unopposed estrogen during hormone replacement therapy.

(Choice D) Increased FSH secretion occurs most commonly in post-menopausal women whose ovaries no longer provide normal negative feedback to the pituitary gland.

(Choice E) Endometrial atrophy is an expected finding in post-menopausal women. Menstrual cycling ceases when the endometrium is no longer exposed to hormonal stimulation.

Educational Objective:

Anovulation is common during the first five to seven years after menarche and the last ten years before menopause, and manifests with marked menstrual cycle variability.

The correct answer is: . Absent ovulation

**Question 45**

Not answered

Marked out of 1.00

A 24-year-old woman comes to the physician because of right lower quadrant abdominal pain. She has had the pain off and on for the past month, but it is now increasing. She has no other symptoms and no medical problems. Examination reveals a mildly tender, right adnexal mass. Pelvic ultrasound shows a 7 cm right adnexal complex cyst. Urine hCG is negative. The patient is taken to the operating room for laparotomy and right ovarian cystectomy. Microscopically the cyst has cartilage, adipose tissue, intestinal glands, hair, and a calcification that appears to be a tooth. There is also a large amount of thyroid tissue. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Struma ovarii
- ☐ . Gastric carcinoma
- ☐ . Ectopic pregnancy
- ☐ . Corpus luteum
- ☐ . Thyroid carcinoma

Check

Cystic teratomas, also known as dermoid cysts, are the most common benign ovarian neoplasm. They account for approximately 1/3 of all ovarian neoplasms. They may be composed of a variety of cell types and have a mixture of tissues, as this patient has. When thyroid tissue makes up more than 50% of the teratoma, the dermoid is then referred to as struma ovarii. Approximately 3% of ovarian teratomas fall into this category and there is an association of struma ovarii with carcinoid tumor. Struma ovarii is unilateral in approximately 90% of patients and most (80%) are benign. Rarely struma ovarii is a cause of hyperthyroidism and patients with this manifestation may have symptoms of hyperthyroidism, as well as elevated levels of thyroid hormones and decreased levels of thyroid stimulating hormone (TSH). Treatment of struma ovarii is by surgical removal of the tumor. A corpus luteum (choice A) is a common cause of complex

cysts in young women. However, a corpus luteum does not contain thyroid tissue, hair, teeth, and other such tissues. Ectopic pregnancy (choice B) can cause an adnexal mass, and a live ectopic may have various tissues in it when examined microscopically. However, this patient has a negative hCG, which effectively rules out ectopic pregnancy unless there is a laboratory error. Also, this cyst has tissues that are found in struma ovarii. Gastric carcinoma (choice C) can metastasize to the ovary. In fact, 5% of all ovarian malignancies are metastases from other sites. The cancers that most frequently metastasize to the ovary are colon, breast, stomach, and pancreas. When a gastric carcinoma metastasizes to the ovary, it is termed a Krukenberg tumor and has the pathognomonic "signet-ring" cells. Thyroid carcinoma (choice E) rarely metastasizes to the ovary and rarely would be found in combination with the other tissue elements that this patient's cyst has.

The correct answer is: . Struma ovarii

**Question 46**

Not answered

Marked out of 1.00

A 24-year-old nullipara is being evaluated for infertility. On pelvic examination, she has a single cervix. A diagnostic laparoscopy shows a double uterine fundus. Which of the following is the most likely diagnosis of her uterine anomaly?

Select one:

- ☐ septate uterus
- ☐ didelphic uterus
- ☐ bicornuate uterus
- ☐ a diethylstilbestrol (DES) exposed uterus
- ☐ unicornuate uterus

A single cavity uterus forms from fusion of paired Müllerian ducts followed by dissolution of the fused medial walls. Uterine anomalies can be divided into five distinct categories: (A) failure of formation of one or both Müllerian ducts (unicornuate uterus or absent uterus, respectively); (B) failure of fusion of the Müllerian ducts (didelphic uterus, with two cervixes and two vaginal canals separated by a longitudinal septum); (C) partial fusion of the Müllerian ducts (bicornuate uterus); (D) failure of dissolution of the fused medial walls of the Müllerian ducts (septate uterus); and (E) DES exposed uterus. A fetus exposed to DES (or any estrogen) in the first trimester will often develop a T-shaped uterine cavity. The pathophysiology of this abnormality is unknown. In this patient, a single cervix and a double uterine fundus indicate a bicornuate uterus. (Speroff and Fritz, 2005, pp. 1079–1080)

The correct answer is: bicornuate uterus

**Question 47**

Not answered

Marked out of 1.00

A 39-year-old Caucasian female presents to your office with a palpable nodularity in the right breast. Pathologically, the lesion is composed of ducts distended by pleomorphic cells with prominent central necrosis. The lesion does not extend beyond the ductal basal membrane. Which of the following is the most likely diagnosis in this patient?

Select one:

- ☐ . Sclerosing adenosis
- ☐ . Paget disease
- ☐ . Medullary carcinoma

- ☐ . Comedocarcinoma
- ☐ . Mammary duct ectasia

Check

The typical histologic picture of comedocarcinoma (DCIS) is described. Ductal carcinoma in situ (DCIS) is a precancerous breast lesion characterized by a malignant clonal cell proliferation contained by the surrounding ductal basement membrane. The (basal) myoepithelial layer of the duct is preserved and uninvolved. Usually only a single ductal system appears to have DCIS. However, far more extensive DCIS lesions can occur, with widespread involvement of the breast parenchyma occasionally identified. In mammographically screened populations, DCIS now represents 15-30% of all carcinomas and 50% of mammogram-identified carcinomas.

Classically, DCIS is divided into five different subtypes: comedocarcinoma, solid, cribriform, papillary, and micropapillary. Most cases have a mixture of patterns. Comedocarcinoma, as seen in this patient, is identified as solid sheets of pleomorphic, high-grade cells with central necrosis. Chronic inflammation and periductal concentric fibrosis are additional findings. As the malignant cell membranes become necrotic they calcify, allowing mammographic detection of microcalcification clusters. If the comedocarcinoma is extensive, the lesion may be palpable as a poorly defined nodule.

(Choice A) Paget disease of the nipple is a rare form of breast cancer in which malignant cells spread from superficial DCIS into nipple skin without having crossed the basement membrane. Physical examination reveals unilateral erythema and scale crust around the nipple.

(Choice C) Medullary carcinoma is characterized by solid sheets of vesicular, pleomorphic, mitotically active cells with a significant lymphoplasmacytic infiltrate around and within the tumor and a pushing, noninfiltrating border.

(Choice D) Sclerosing adenosis is characterized by central acinar compression and distortion (by surrounding fibrotic tissue) and peripheral ductal dilation. Sclerosing adenosis is a common finding in fibrocystic change.

(Choice E) Mammary duct ectasia is characterized by ductal dilation, inspissated breast secretions, and chronic granulomatous inflammation in the periductal and interstitial areas.

(Choice F) Phyllodes tumors appear similar to fibroadenomas but have increased cytologic atypia and stromal cellularity and overgrowth. The resultant architecture is described as "leaflike."

Educational Objective:

Comedocarcinoma (DCIS) is characterized by solid sheets of pleomorphic, high-grade cells with central necrosis.

The correct answer is: . Comedocarcinoma

**Question 48**

Not answered

Marked out of 1.00

At the time of annual examination, a patient expresses concern regarding possible exposure to sexually transmitted diseases. During your pelvic examination, a single, indurated, nontender ulcer is noted on the vulva. Venereal Disease Research Laboratory (VDRL) and fluorescent treponemal antibody (FTA) tests are positive. Without treatment, the next stage of this disease is clinically characterized by which of the following?

Select one:

- ☐ . Tabes dorsalis
- ☐ . Gummas
- ☐ . Optic nerve atrophy and generalized paresis
- ☐ . Macular rash over the hands and feet
- ☐ . Aortic aneurysm

Check

(Ransom, p 52.) Syphilis is a chronic disease produced by the spirochete *Treponema pallidum*. Because of the spirochete's extreme thinness, it is difficult to detect by light microscopy; therefore, spirochetes are diagnosed by use of a specially adapted technique known as dark-field microscopy. Clinically, syphilis is divided into primary, secondary, and tertiary (or late) stages. In primary syphilis a hard chancre develops. This is a painless ulcer with an indurated base that is usually found on the vulva, vagina, or cervix. Secondary syphilis is the result of hematogenous dissemination of the spirochetes and thus is a systemic disease. There are a number of systemic symptoms depending on the major organs involved. The classic rash of secondary syphilis is red macules and papules over the palms of the hands and the soles of the feet. The manifestations of late syphilis include optic atrophy, tabes dorsalis, generalized paresis, aortic aneurysm, and gummas of the skin and bones.

The correct answer is: . Macular rash over the hands and feet



**Question 49**

Not answered

Marked out of 1.00

A 32-year-old G2P1 at 28 weeks gestation presents to labor and delivery with the complaint of vaginal bleeding. Her vital signs are: blood pressure 115/67 mm Hg, pulse 87 beats per minute, temperature 37.0C, respiratory rate 18 breaths per minute. She denies any contraction and states that the baby is moving normally. On ultrasound the placenta is anteriorly located and completely covers the internal cervical os. Which of the following would most increase her risk for hysterectomy?

Select one:

- ☐ . Desire for sterilization
- ☐ . Smoking
- ☐ . Development of disseminated intravascular coagulopathy (DIC)
- ☐ . Prior vaginal delivery
- ☐ . Placenta accreta

(Cunningham, pp 831-833.) Prior cesarean delivery and placenta previa, especially an anteriorly located placenta, increase your risk of placenta accreta, increta, and percreta. Placenta accreta, increta, or percreta are treated with hysterectomy. Advancing maternal age, multiparity, prior cesarean delivery, and smoking are associated with previa. Painless bleeding is the most common symptom, and is rarely fatal. Vaginal examination to evaluate for placenta previa is never permissible unless the woman is in the operating room prepared for immediate cesarean delivery, because even the most gentle examination can cause torrential hemorrhage. These “double setup” examinations are rarely necessary because ultrasound is usually readily available to make the diagnosis of placenta previa. Cesarean delivery is necessary in practically all cases of previa. Because of the poor contractile nature of the lower uterine segment, uncontrollable hemorrhage may follow removal of the placenta. Hysterectomy may be indicated if conservative methods to control hemorrhage fail. Resuscitation with blood products is the treatment of disseminated intravascular coagulopathy, not hysterectomy. Sterilization itself is not an indication for hysterectomy at the time of cesarean delivery, because the complications of surgery are much increased with a cesarean hysterectomy.

The correct answer is: . Placenta accreta

**Question 50**

Not answered

Marked out of 1.00

A 25-year-old female in her first pregnancy delivers a 6-lb male infant at 38 weeks. The infant develops fever, vesicular rash, poor feeding, and listlessness at 1 week of age. What is the most likely cause of the infant's signs and symptoms?

Select one:

- ☐ . *Listeria monocytogenes*
- ☐ . Herpes simplex
- ☐ . Group B streptococcus
- ☐ . Cytomegalovirus
- ☐ . Hepatitis B

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Neonatal herpes infection has three forms: disseminated with involvement of major organs; localized, with involvement confined to the central nervous system; and asymptomatic. A 50% risk of neonatal infection occurs with primary maternal infection, but only 4% to 5% risk with recurrent outbreaks. Postnatal infection can occur through contact with oral and skin lesions. Neonatal infection presentation is nonspecific, with signs and symptoms such as irritability, lethargy, fever, and poor feeding. Less than 50% of infants do not have skin lesions.

The correct answer is: . Herpes simplex

**Question 51**

Not answered

Marked out of 1.00

Your patient has just had twins and wonders if there is any way to determine whether the twins are identical. You correctly tell her which of the following?

Select one:

- ☐ Identical twins occur only once in about 80 births of twins
- ☐ It is unlikely because the birth weights differed by more than 200 g
- ☐ Only matching of human lymphocyte antigens could determine this with certainty
- ☐ Close examination of the placenta can often provide this answer
- ☐ There is no way to tell unless one is a girl and one a boy

Check

Different-sex twins must be dizygous. Prenatal ultrasound can detect monochorionic, monoamniotic twins, and these must be monozygous. For same-sex twins, careful examination of the amniotic membranes after birth can reveal monozygous twins if the placental membranes are monochorionic. Dichorionic membranes can occur with either monozygous or dizygous twins. Ultimately, assessment of DNA polymorphism is the best way to determine twin zygosity. (Creasy et al., 2004, pp. 65–66)

The correct answer is: Only matching of human lymphocyte antigens could determine this with certainty

**Question 52**

Not answered

Marked out of 1.00

A 15-year-old girl is being evaluated for primary amenorrhea. She has no other symptoms. She has not been sexually active. She has no other medical problems and does not take any medication. Her family history is unremarkable. On examination, you note fully developed breasts and absent axillary and pubic hair. External genitalia have a normal appearance, but the vagina is abnormally short and blind ended. Initial work-up reveals no uterus on ultrasound, a testosterone level of 400 ng/dl (Normal is 20–80 for a female), and a 46 XY karyotype. Which of the following events is most likely to have caused the absence of in utero development of the internal reproductive organs?

Select one:

- ☐ . Absence of mullerian inhibiting factor
- ☐ . Agenesis of Wolffian ducts
- ☐ . Testosterone surge

- ☐ . Agenesis of mullerian ducts
- ☐ . Presence of mullerian inhibiting factor

Check

Androgen insensitivity syndrome, sometimes called testicular feminization, is characterized by a defect or absence of androgen receptors resulting in androgen resistance of peripheral tissues. Consequently, patients have a female phenotype with a 46 XY genotype. There are still normal testes that are typically found in the abdomen or inguinal canal, and patients are prone to the development of inguinal hernias. The mullerian inhibiting factor (MIF) is produced by the testes and prohibits formation of the uterus, fallopian tubes, and upper portion of the vagina. The testosterone level is elevated for a female, but within the normal range for a male. Breasts develop because of peripheral conversion of testosterone to estrogen, whereas axillary and pubic hair does not develop since it is dependent on testosterone. Treatment involves testicular resection at puberty and creation of a neo vagina.

(Choice A) Absence of MIF secretion will result in development of normal female internal organs.

(Choice C) Wolffian ducts are the embryonic precursors of seminal vesicles, epididymis, ejaculatory ducts, and ductus deferens in males.

(Choice D) Patients with mullerian agenesis may present with primary amenorrhea and nondeveloped internal reproductive organs, but they have a normal XX karyotype with normal female levels of testosterone. Patients also have normal axillary and pubic hair development since they can respond appropriately to testosterone.

(Choice E) A testosterone surge at the appropriate time of gestation can cause virilization of the external genitalia in female fetuses, but this patient has an XY genotype and normal female external genitalia .

Educational objective:

Patients with androgen resistance present with amenorrhea, normally developed breasts, absent pubic and axillary hair, absent internal reproductive organs, and a 46 XY karyotype . Serum testosterone levels are in a range typical for males. The internal reproductive organs do not develop because the testes are still present and secrete mullerian inhibiting factor.

The correct answer is: . Presence of mullerian inhibiting factor

**Question 53**

Not answered

Marked out of 1.00

A 37-year-old female presents to your clinic complaining of lower abdominal discomfort. On bimanual examination the uterus is enlarged. Biopsy reveals normal appearing endometrial glands within the myometrium. The most likely diagnosis is:

Select one:

- ☐ . Leiomyoma
- ☐ . Ectopic pregnancy
- ☐ . Endometriosis
- ☐ . Adenomyosis
- ☐ . Endometrial carcinoma

Check

Adenomyosis is the presence of endometrial glandular tissue within the myometrium. Though this condition is relatively common, its etiology is unknown. Adenomyosis typically affects middle-aged parous females. Symptoms include menorrhagia and dysmenorrhea. Physical examination classically reveals a uniformly enlarged uterus. Uterine enlargement results primarily from uterine smooth muscle hypertrophy and hyperplasia in response to the ectopic endometrial glandular tissue.

(Choice A) Leiomyoma is a common benign pseudoencapsulated tumor of monoclonal uterine smooth muscle cells. Physical exam may reveal an irregularly enlarged uterus or uterine mass.

(Choice B) Adenocarcinoma is the most common type of endometrial carcinoma. In endometrial adenocarcinoma, glandular structures with malignant-appearing cells (nuclear atypia, increased mitotic activity) invade the uterine wall by direct extension. The most common presentation is abnormal uterine bleeding in a postmenopausal woman.

(Choice D) Endometriosis is the presence of normal endometrial tissue in abnormal locations (outside the uterus). These ectopic foci of endometrial tissue undergo menstrual-type bleeding causing cyclic pelvic pain (dysmenorrhea) due to local inflammation and fibrosis.

(Choice E) The fallopian tube is the most common location for an ectopic pregnancy. Histologically, placental and/or embryonic tissue is seen. Patients typically present with amenorrhea with or without acute lower abdominal pain. The uterus is typically not enlarged.

Educational Objective:

A uniformly enlarged uterus with normal appearing endometrial tissue within the myometrium indicates a diagnosis of adenomyosis. Menorrhagia and dysmenorrhea are common presenting symptoms.

The correct answer is: . Adenomyosis

**Question 54**

Not answered

Marked out of 1.00

A 22-year-old nulliparous woman has recently become sexually active. She consults you because of painful coitus, with the pain located at the vaginal introitus. It is accompanied by painful involuntary contraction of the pelvic muscles. Other than confirmation of these findings, the pelvic examination is normal. Which of the following is the most common cause of this condition?

Select one:

- ☐ . Endometriosis
- ☐ . Psychogenic causes
- ☐ . Bartholin gland abscess
- ☐ . Vulvar atrophy
- ☐ . Ovarian cyst

Check

(Katz, pp 188-190.) This patient presents with vaginismus, defined as involuntary painful spasm of the pelvic muscles and vaginal outlet. It is usually psychogenic. It should be differentiated from frigidity, which implies lack of sexual desire, and dyspareunia, which is defined as pelvic and/or back pain or other discomfort associated with sexual activity. Dyspareunia is frequently associated with pelvic pathology such as endometriosis, pelvic adhesions, or ovarian neoplasms. The pain of vaginismus may be psychogenic in origin, or may be caused by pelvic pathology such as adhesions, endometriosis, or leiomyomas. Treatment of vaginismus is primarily psychotherapeutic, as organic vulvar or pelvic causes (such as atrophy, Bartholin gland cyst, or abscess) are very rare.

The correct answer is: . Psychogenic causes

**Question 55**

Not answered

Marked out of 1.00

A 24-year-old gravida 2, para 1, African American woman at 12 weeks gestation comes for her first prenatal visit. Except for early morning mild headaches and nausea she has no other symptoms. Physical examination shows mild bilateral ankle edema. Blood pressure is measured twice 15 minutes apart and is 150/96 mmHg on both occasions. Blood is drawn for

laboratory tests and the patient is sent home with a follow-up appointment 3 days later. She returns 3 days later and repeat blood pressure is the same.

Laboratory studies show:

Urinalysis:

Protein: negative,

Blood: negative,

Glucose: trace,

Ketones: negative,

Leukocyte esterase: negative,

Nitrites: negative, WBC: 1-2/hpf, RBC: 1-2/hpf.

Chemistry panel:

Serum sodium: 150 mEq/L,

Serum potassium: 2.5 mEq/L,

Chloride: 100 mEq/L,

Bicarbonate: 23 mEq/L,

Blood urea nitrogen (BUN): 14 mg/dL,

Serum creatinine: 0.8 mg/dL.

Ultrasonogram reveals intrauterine gestation consistent with dates; no abnormalities noted. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Transient hypertension of pregnancy
- ☐ . Normal pregnancy
- ☐ . Molar pregnancy
- ☐ . Chronic hypertension
- ☐ . Preeclampsia

Check

The increase in blood pressure in this case appeared before 20-weeks gestation and thus represents either chronic hypertension that was present before pregnancy or a hydatiform mole. Ultrasound demonstrated a normal gestational sac, so a molar pregnancy can be safely ruled out. The work-up revealed hypernatremia and hypokalemia, which indicates hyperaldosteronism. Patients with chronic hypertension should be carefully followed; if proteinuria or a significant increase in BP is noted as the pregnancy progresses, chronic hypertension with superimposed preeclampsia is diagnosed.

(Choice A) This patient is hypertensive but does not have non-dependent edema or proteinuria, so the diagnosis of preeclampsia cannot be made. Also the HTN appeared before 20 weeks gestation.

(Choice C) Molar pregnancy can cause hypertension. Hydatidiform mole has a classic "snow storm" appearance on ultrasound.

(Choice D) Transient or late hypertension refers to hypertension that appears in the second half of pregnancy or during labor and delivery and is not accompanied by proteinuria ( $<300\text{mg}/24\text{hr}$ ). Preeclampsia is diagnosed if the proteinuria exceeds  $300\text{mg}/24\text{hr}$ .

(Choice E) SBP of more than 140 mmHg and DBP of more than 90 mmHg is considered abnormal.

Educational objective:

An increase in blood pressure that appears before 20-weeks gestation is due to either chronic hypertension or a hydatidiform mole.

The correct answer is: . Chronic hypertension



**Question 56**

Not answered

Marked out of 1.00

A 21-year-old nulligravid woman complains that she has nonmenstrual vaginal bleeding and left-sided lower-abdominal pain. Her last menstrual period was 7 weeks ago. She is sexually active with multiple sexual partners. She uses barrier contraception irregularly and was treated with antibiotics 6 months ago for bilateral lower-abdominal pelvic pain. Her vital signs are stable. On pelvic examination, she has dark blood in the vagina with no active bleeding. Her uterus is slightly enlarged but nontender. She has left adnexal tenderness to palpation without an obvious mass. Which of the following is the most likely diagnosis?

Select one:

- ☐ Molar pregnancy
- ☐ Submucous leiomyoma
- ☐ Endometrial carcinoma
- ☐ Ectopic pregnancy
- ☐ Vaginal foreign body

This scenario displays the classic triad of ectopic pregnancy (choice A): vaginal bleeding, unilateral lower abdominal pelvic pain, and amenorrhea. If this triad is accompanied by hypotension and tachycardia, the diagnosis would be ruptured ectopic pregnancy with hemoperitoneum, and the management would be emergency laparotomy to stop the bleeding. With stable vital signs, this case is suggestive of unruptured ectopic pregnancy. The diagnosis is confirmed by failure to see an intrauterine gestational sac with transvaginal sonography, plus the presence of a quantitative serum beta-human chorionic gonadotropin (beta-hCG) titer above 1,500 mIU. (A gestational sac from a normal intrauterine pregnancy would be visible when the serum beta-hCG titer is above 1,500 mIU.) The most likely site of the ectopic pregnancy is in the distal oviduct. Management is by parenteral methotrexate if the pregnancy is early (serum beta-hCG titer below 6,000 mIU) and by laparoscopy surgery if the pregnancy is advanced (serum beta-hCG titer above 6,500 mIU). Follow-up with serial serum beta-hCG titers is essential to ensure complete destruction or removal of the ectopic pregnancy tissue.

The correct answer is: Ectopic pregnancy

**Question 57**

A 22-year-old primigravid woman at 10 weeks gestation is brought to the emergency department because of vaginal bleeding and lower abdominal

Not answered

Marked out of 1.00

pain. She was cleaning the house when she suddenly started feeling colicky pain in the suprapubic area. The pain did not subside after resting, and a few minutes later a tissue-like substance passed through her vagina along with moderate bleeding. The pain subsequently ceased, but she still has mild discomfort. Her temperature is 37.0 C (98.7 F), blood pressure is 120/70 mmHg, pulse is 90/min and respirations are 16/min. Physical examination shows a closed cervix and blood pooled in the vaginal vault. Ultrasonogram shows a vacant uterine cavity and free adnexae. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Molar pregnancy
- ☐ . Incomplete abortion
- ☐ . Complete abortion
- ☐ . Ectopic pregnancy
- ☐ . Inevitable abortion

Check

Complete abortion is a form of spontaneous abortion where the whole conceptus passes through the cervix. The cervix then closes, and the associated pain and uterine contractions subside. Ultrasonography shows an empty uterus.

(Choice A) Incomplete abortion implies the evacuation of some of the fetal tissue while the remainder is retained in the uterine cavity.

(Choice B) Threatened abortion refers to any hemorrhage from the uterine cavity occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted, and the fetal heart is active on ultrasound.

(Choice C) Symptoms of molar pregnancy include first trimester vaginal hemorrhage associated with expulsion of vesicles, excessive nausea and vomiting and uterine size greater than dates. Ultrasonography shows a "snow storm" appearance, and beta hCG serum levels are increased beyond what would be expected for a normal pregnancy.

(Choice D) Inevitable abortion presents as vaginal bleeding, lower abdominal cramps and a dilated cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion.

(Choice E) In ectopic pregnancy, the ultrasonogram shows an adnexal mass and empty uterus.

Educational objective:

In a complete abortion, the whole conceptus passes through the cervix. The cervix then closes, and the associated pain and uterine contractions subside.

The correct answer is: . Complete abortion

**Question 58**

Not answered

Marked out of 1.00

While you are on call at the hospital covering labor and delivery, a 32-year-old G3P2002, who is 35 weeks of gestation, presents complaining of lower back pain. The patient informs you that she had been lifting some heavy boxes while fixing up the baby's nursery. The patient's pregnancy has been complicated by diet-controlled gestational diabetes. The patient denies any regular uterine contractions, rupture of membranes, vaginal bleeding, or dysuria. She denies any fever, chills, nausea, or emesis. She reports that the baby has been moving normally. She is afebrile and her blood pressure is normal. On physical examination, you note that the patient is obese. Her abdomen is soft and nontender with no palpable uterine contractions. No costovertebral angle tenderness can be elicited. On pelvic examination her cervix is long and closed. The external fetal monitor indicates a reactive fetal heart rate strip; there are rare irregular uterine contractions demonstrated on the tocometer. The patient's urinalysis comes back with trace glucose, but is otherwise negative. The patient's most likely diagnosis is which of the following?

Select one:

- ☐ . Urinary tract infection
- ☐ . Chorioamnionitis
- ☐ . Musculoskeletal pain
- ☐ . Round ligament pain
- ☐ . Labor

(Cunningham, p 224.) Lower back pain is a common symptom of pregnancy and is reported by about 50% of pregnant women. It is caused by stress placed on the lower spine and associated muscles and ligaments by the gravid uterus, especially in late pregnancy. The pain can be exacerbated with excessive bending and lifting. In addition, obesity predisposes the patient to lower back pain in pregnancy. Treatment options include heat, massage, and analgesia. This patient has no evidence of labor since she is lacking regular uterine contractions and cervical change. Without any urinary symptoms or a urinalysis suggestive of infection, a urinary tract infection is unlikely. The diagnosis of chorioamnionitis does not fit since the patient has intact membranes, no fever, and a nontender uterus. Round ligament pain is characterized by sharp groin pain.

The correct answer is: . Musculoskeletal pain

**Question 59**

Not answered

Marked out of 1.00

A 17-year-old G1P1001 is now 5 weeks postpartum after a routine vaginal delivery. She calls your office to report a 3-week history of difficulty sleeping and “feeling blue.” On further questioning, she reports difficulty concentrating, very poor appetite, occasional wishes that she had never become pregnant, and feelings of guilt about those wishes. She has not left her home in more than a week because she “just can’t find the energy to go anywhere.” This patient’s symptoms are most consistent with:

Select one:

- ☐ hypothyroidism
- ☐ postpartum psychosis
- ☐ postpartum depression
- ☐ normal adolescent adjustment to motherhood
- ☐ postpartum blues

Postpartum mood disorders are much more common than previously believed. Postpartum blues (also called maternity blues or baby blues) occurs in most women within the first 2 weeks of delivery and is characterized by irritability, mood lability, and anxiety. This condition is generally resolved within 2 weeks. Hypothyroidism can mimic postpartum depression or contribute to it, but this diagnosis is based on laboratory studies and is not as common as postpartum depression itself. Psychosis is a very serious condition that occurs in up to 0.2% of deliveries and is marked by confusion, bizarre behavior, disordered thoughts, delusions, and hallucinations. There is a high risk of suicide or harm to others and immediate psychiatric care is required. Postpartum mood disorders are more common in adolescents but cannot be blamed on “typical teenage adjustment.” This patient’s case fits most closely the definition of postpartum depression, using the same DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition) criteria as major depression. Five lakh postpartum women in the United States have postpartum depression annually. Treatment should include antidepressant therapy (generally using SSRIs) and psychotherapy as indicated. (Creasy et al., 2004, pp. 1193–2000)

The correct answer is: postpartum depression

**Question 60**

Not answered

A 28-year-old teacher presents to the clinic complaining of 5 months of polyuria, polydipsia, and weight loss. Additionally, her menses, which have always been irregular, have stopped altogether. She is concerned because

Marked out of 1.00

both her mother and maternal aunt suffer from noninsulin-dependent diabetes, and they told her they had similar symptoms before they were diagnosed. Upon questioning she reveals that she is in a committed relationship and has no desire to have children, so she uses barrier protection during intercourse. Physical examination reveals an obese woman with hirsutism currently in no acute distress. Testing for  $\beta$ -human chorionic gonadotropin level, random blood sugar level, cholesterol panel, and a luteinizing hormone/follicle-stimulating hormone ratio suggests the patient has polycystic ovarian syndrome (PCOS). Although no one in her family has had cancer, she is concerned that her symptoms are a harbinger of cancer or that she might be likely to suffer from cancer in the future. This diagnosis would most raise her risk for which kind of cancer?

Select one:

- ☐ Lung cancer
- ☐ Ovarian cancer
- ☐ Colon cancer
- ☐ Endometrial cancer
- ☐ Cervical cancer

PCOS is defined by the presence of infrequent menses and high blood levels of androgens. In addition, patients have high levels of circulating estrogens, partially due to chronic anovulation, and partially due to increased peripheral conversion of androgens to estrone due to concomitant obesity. Endometrial cancer risk is increased in the setting of unopposed estrogen exposure.

Answer A is incorrect. The risk for cervical cancer is increased for patients with multiple sexual partners, early start of sexual activity, immunocompromised status, smoking history, history of human papillomavirus (HPV) infection, and history of other STDs.

Answer B is incorrect. There is no relationship between sex hormones and the development of colon cancer.

Answer D is incorrect. Lung cancer is the most common cause of cancer death in women, but it is not related to PCOS.

Answer E is incorrect. Risk factors for ovarian cancer are family history of ovarian or breast cancer, and chronic uninterrupted ovulation. The patient has no family history, and PCOS is characterized by chronic anovulation.

The correct answer is: Endometrial cancer

**Question 61**

Not answered

Marked out of 1.00

A 51-year-old woman comes to your office for a routine health maintenance examination. She says that she has been having irregular menses and occasional hot flashes for the past eight months. She has a very stressful job and drinks two to three cups of coffee every morning. She does not smoke, but drinks two to three ounces of alcohol daily. She eats a pure vegetarian diet and walks two miles on a treadmill each day. Her vital signs are within normal limits. Her BMI is 31 kg/m<sup>2</sup>. Physical examination is unremarkable. You inform her that she is probably reaching menopause, and that she will be at an increased risk of developing osteoporosis. Which of the following is the most significant risk factor for the development of osteoporosis in this patient?

Select one:

- ☐ . Obesity
- ☐ . Excess walking
- ☐ . Vegetarian diet
- ☐ . Excess alcohol use
- ☐ . Caffeine use

The risk factors for the development of osteoporosis can be subdivided into two subgroups: modifiable and non-modifiable. Modifiable risk factors include the following: hormonal factors such as low estrogen levels, malnutrition, decreased calcium, and decreased vitamin D; the use of certain medications such as glucocorticoids or anticonvulsants; an inactive lifestyle or extended bed rest; cigarette smoking; and excessive alcohol consumption. Non-modifiable risk factors include female gender, advanced age, small body size, late menarche/early menopause, Caucasian and Asian ethnicity, and a family history of osteoporosis. Patients at risk for osteoporosis should be encouraged to make lifestyle modifications, such as weight-bearing exercise, smoking cessation, and alcohol abstinence. Alcohol consumption causes a dose-dependent increase in the risk of osteoporotic fractures, and patients have a significant increase in their fracture risk if they drink more than two drinks daily.

{Choice A} Caffeine use has not been definitively shown to be a risk factor for the development of osteoporosis.

{Choice B} Adipose tissue is a source of endogenous estrogen and obesity inherently leads to increased weight bearing. As a result of these two factors, obesity is actually protective against the development of osteoporosis.

{Choice D} A typical vegetarian diet includes foods fortified with calcium, such as orange juice, cereals, and whole grains. In addition, green leafy vegetables (i.e. broccoli, collard greens, and spinach) are good sources of calcium. Therefore, a vegetarian diet by itself is not a risk factor for osteoporosis.

{Choice E} Weight-bearing exercise, like brisk walking, is associated with a small improvement in bone mineral density, and is recommended to help prevent osteoporosis.

Educational objective:

Risk factors for osteoporosis include advanced age, thin body habitus, cigarette smoking, alcohol consumption, corticosteroid use, menopause, malnutrition, family history of osteoporosis, and Asian or Caucasian ethnicity.

The correct answer is: . Excess alcohol use

**Question 62**

Not answered

Marked out of 1.00

A 20-year-old G1 patient delivers a live-born infant with cutaneous lesions, limb defects, cerebral cortical atrophy, and chorioretinitis. Her pregnancy was complicated by pneumonia at 18 weeks. What is the most likely causative agent?

Select one:

- ☐ . Group B streptococcus
- ☐ . Rubella virus
- ☐ . Varicella zoster
- ☐ . Cytomegalovirus
- ☐ . Treponemal pallidum

Check

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Maternal infection with viruses and bacteria during pregnancy can cause an array of fetal effects from none to congenital malformations and death. Maternal infection with varicella-zoster during the first half of pregnancy can cause malformations such as cutaneous and bony defects, chorioretinitis, cerebral cortical atrophy, and hydronephrosis. Adults with varicella infection fare much worse than children; about 10% will develop a pneumonitis, and some of these will require ventilatory support.

The correct answer is: . Varicella zoster



**Question 63**

Not answered

Marked out of 1.00

A 67-year-old woman comes to the physician because of pain with urination and frequent urination. She has hypertension for which she takes a beta-blocker, but no other medical problems. She states that she is not sexually active. She does not smoke and drinks cranberry juice daily. Examination shows mild suprapubic tenderness and genital atrophy but is otherwise unremarkable. Urinalysis shows 50 to 100 leukocytes/high powered field (hpf) and 5 to 10 erythrocytes/hpf. Which of the following is the most likely cause of the infection?

Select one:

- ☐ . Sexual intercourse
- ☐ . Hypoestrogenism
- ☐ . Nephrolithiasis
- ☐ . Cranberry juice ingestion
- ☐ . Cardiac disease

This patient has a presentation that is most consistent with urinary tract infection (UTI). Two of the major risk factors for uncomplicated UTI are sexual intercourse and hypoestrogenism. Sexual intercourse is believed to lead to urinary tract infection by introducing colonizing bacteria into the bladder. Sexual intercourse has been shown to increase the number of bacteria in the urine up to ten times. Hypoestrogenism is believed to be a risk factor for UTI because it is known that postmenopausal women not receiving estrogen replacement therapy (ERT) are at greater risk for developing a UTI compared with those women who do use ERT. Furthermore, estrogen administration has been shown to prevent recurrent infection. Cardiac disease (choice A) is a major risk factor for a number of conditions. However, cardiac disease is not a known risk factor for UTI. Cranberry juice ingestion (choice B) has, for many years, been believed to help prevent UTIs. Many in the medical establishment viewed this as an "old wives tale." However, there have been many studies that have shown that cranberry juice contains substances that inhibit bacterial adherence. Moreover, a recent study showed that elderly women that drank cranberry juice have lower rates of pyuria and bacteriuria and a decreased need for antibiotics. Nephrolithiasis (choice D) can be a risk factor for the development of an eventual infection, but it is not as common a risk factor as is hypoestrogenism or sexual

intercourse. Furthermore, this patient has no evidence of nephrolithiasis, which typically causes severe to excruciating episodes of pain. Sexual intercourse (choice E), as noted above, is a well-known risk factor for the development of a UTI. Sexually active women with recurrent UTIs may be treated with a single dose of antibiotic prophylactically after intercourse. This patient, however, has stated that she is not sexually active.

The correct answer is: . Hypoestrogenism

**Question 64**

Not answered

Marked out of 1.00

A 20-year-old G0, LMP 1 week ago, presents to your gynecology clinic complaining of a mass in her left breast that she discovered during routine breast self-examination in the shower. When you perform a breast examination on her, you palpate a 2-cm firm, nontender mass in the upper inner quadrant of the left breast that is smooth, well-circumscribed, and mobile. You do not detect any skin changes, nipple discharge, or axillary lymphadenopathy. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Fibrocystic breast change
- ☐ . Cystosarcoma phyllodes
- ☐ . Fat necrosis
- ☐ . Breast carcinoma
- ☐ . Fibroadenoma

Check

(Katz, p 333. Beckmann, pp 317-319.) This patient's breast mass is characteristic of a fibroadenoma. Fibroadenomas are the second most common benign breast disorder, after fibrocystic changes. Fibroadenomas are characterized by the presence of a firm, solid, well-circumscribed, nontender, freely mobile mass and have an average diameter of 2.5 cm. These lesions most commonly occur in adolescents and women in their twenties. Fibrocystic changes occur in about one-third to one-half of reproductive-age women and represent an exaggerated response of the breast tissue to hormones. Patients with fibrocystic changes complain of bilateral mastalgia and breast engorgement preceding menses. On physical examination, diffuse bilateral nodularity is typically encountered. Cystosarcoma phyllodes are rare fibroepithelial tumors that constitute 1% of breast malignancies. These rapidly growing tumors are the most frequent breast sarcoma and occur most frequently in women in the fifth decade of life.

Trauma to the breast can result in fat necrosis. Women with fat necrosis commonly present to the physician with a firm, tender mass that is surrounded by ecchymosis. Occasional skin retraction can occur, making this lesion difficult to differentiate from cancer. It is unlikely that this patient who presents in her twenties has breast cancer. Fine-needle aspiration or excisional biopsy may be performed to rule out the rare chance of malignancy, but breast cancer is not the most likely diagnosis based on the patient's age and lack of any other breast changes consistent with carcinoma (such as a fixed mass, skin retraction, or lymphadenopathy).

The correct answer is: . Fibroadenoma

**Question 65**

Not answered

Marked out of 1.00

A 28-year-old G1 presents to your office at 8 weeks gestation. She has a history of diabetes since the age of 14. She uses insulin and denies any complications related to her diabetes. Which of the following is the most common birth defect associated with diabetes?

Select one:

- ☐ . Sacral agenesis
- ☐ . Ventricular septal defect
- ☐ . Meningomyelocele
- ☐ . Anencephaly
- ☐ . Encephalocele

Check

(Cunningham, pp 198, 1177.) The incidence of major malformations in women with diabetes is 5% to 10%. It is believed that they are a consequence of poorly controlled diabetes in the preconception and early pregnancy period. Glycosylated hemoglobin (Hgb A1c) level correlates to glycemic control and the higher the level of Hgb A1c, the poorer the control and the greater the risk for major congenital anomalies. A hemoglobin A1c level greater than 10.6 has a 25% risk of fetal malformations. The most common single organ system anomalies are cardiac (38%), musculoskeletal (15%), and central nervous system (10%). Sacral agenesis is a rare malformation seen commonly in severely diabetic women.

The correct answer is: . Ventricular septal defect

**Question 66**

Not answered

Marked out of 1.00

A patient presents to your office approximately 2 weeks after having a total vaginal hysterectomy with anterior colporrhaphy and Burch procedure for uterine prolapse and stress urinary incontinence. She complains of a constant loss of urine throughout the day. She denies any urgency or dysuria. Which of the following is the most likely explanation for this complaint?

Select one:

- ☐ . Vesicovaginal fistula
- ☐ . Diabetic neuropathy
- ☐ . Urinary tract infection
- ☐ . Failure of the procedure
- ☐ . Detrusor instability

(Katz, pp 680-681. Beckmann, pp 293-298.) Both vesicovaginal and ureterovaginal fistulas are complications that occur rarely after benign gynecologic procedures. Seventy-five percent of fistulas occur after abdominal hysterectomies and 25% occur as a result of vaginal operations. Classically, urinary tract fistulas present with painless and continuous loss of urine 8 to 12 days after surgery. Urinary tract infections and bladder dyssynergia present with dysuria, urgency, and frequency. Since this patient has no symptoms of stress incontinence, failure of the procedure would not be the correct answer.

The correct answer is: . Vesicovaginal fistula

**Question 67**

Not answered

Marked out of 1.00

A mother brings her 12-year-old daughter in to your office for consultation. She is concerned because most of the other girls in her daughter's class have already started their period. She thinks her daughter hasn't shown any evidence of going into puberty yet. Knowing the usual first sign of the onset of puberty, you should ask the mother which of the following questions?

Select one:

- ☐ . Has her daughter started her growth spurt?
- ☐ . Does her daughter have any axillary or pubic hair?
- ☐ . Has her daughter started to develop breasts?
- ☐ . Has her daughter had any vaginal spotting?
- ☐ . Has her daughter had any acne?

Check

(Katz, pp 934-937. Speroff, pp 386-391.) In the United States, the appearance of breast buds (thelarche) is usually the first sign of puberty, generally occurring between the ages of 9 and 11 years. This is subsequently followed by the appearance of pubic and axillary hair (adrenarche or pubarche), the adolescent growth spurt, and finally menarche. On average, the sequence of developmental changes requires a period of 4.5 years to complete, with a range of 1.5 to 6 years. The average ages of adrenarche/pubarche and menarche are 11.0 and 12.8 years, respectively. These events are considered to be delayed if thelarche has not occurred by the age of 13, adrenarche by the age of 14, or menarche by the age of 16. Girls with delayed sexual development should be fully evaluated for delayed puberty, including central, ovarian, systemic, or constitutional causes.

The correct answer is: . Has her daughter started to develop breasts?

**Question 68**

Not answered

Marked out of 1.00

A 22-year-old woman presents to office with a 3-week history of scant vaginal discharge. She has no other complaints. She is sexually active and uses oral contraceptives. She has regular 26-day menstrual cycles and her last menstrual period was ten days ago. She does not smoke or consume alcohol. Her temperature is 36.7C (98 F), blood pressure is 120/80 mmHg, pulse is 80/min, and respirations are 14/min. On examination, the abdomen is non tender. Yellow mucopurulent discharge is seen at the cervical os. Which of the following organisms is the most probable cause of this patient's problem?

Select one:

- ☐ . Trichomonas vaginalis
- ☐ . Neisseria gonorrhoeae
- ☐ . Herpes simplex
- ☐ . Candida albicans
- ☐ . Chlamydia trachomatis

This patient presents with signs and symptoms suggestive of mucopurulent cervicitis. Mucopurulent cervicitis is a common gynecologic problem, but it is asymptomatic in more than 50% of women with this disease. The prevalence of this condition in young women is estimated to be as high as 10%. The most common cause of mucopurulent cervicitis is Chlamydia trachomatis. Besides that, cervical ectopy created by oral contraceptives may preferentially predispose to colonization with C. trachomatis.

Although N. gonorrhoeae (Choice B) is a less common cause, gonococcal infection should be carefully excluded by Gram staining and culture.

T. Vagina/is (Choice D) and C. albicans (Choice E) are frequent causes of ectocervicitis that is typically associated with vulvovaginitis .

Herpes simplex (Choice C) can cause cervical inflammation and ulceration, but does not cause mucopurulent discharge.

Educational objective:

The most common cause of mucopurulent cervicitis is Chlamydia trachomatis.

The correct answer is: . Chlamydia trachomatis

**Question 69**

Not answered

A 20-year-old primigravid woman at 32 weeks gestation comes to the physician because of swelling in her hands and ankles. She has no headache,

Marked out of 1.00

visual disturbances or epigastric pain. She has no previous medical problems. She does not use tobacco, alcohol or illicit drugs. Her previous prenatal check-up at 28 weeks gestation was normal. Her medical records show no preexisting hypertension or proteinuria. Her blood pressure is 156/100 mmHg, and after 15 minutes of lateral rest, a repeat reading is 154/98 mmHg. Physical examination shows 2+ pitting edema in both legs and hands. Deep tendon reflexes are normal. Fundoscopic examination shows no abnormalities. Fetal heart tones are audible by Doppler. Laboratory studies show:

Hb: 13.0 g/dl,

Hct: 50%,

Platelets: 300,000/mm<sup>3</sup>,

Creatinine: 1.1 mg/dl.

24-hours urine protein excretion is 1gm, which is new. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Chronic hypertension
- ☐ . Mild preeclampsia
- ☐ . Severe preeclampsia
- ☐ . Transient hypertension of pregnancy
- ☐ . Eclampsia

Check

The patient described has mild preeclampsia. Mild preeclampsia is defined clinically by hypertension greater than 140/90 mmHg and proteinuria greater than 0.3g/24h (300mg/24h) after the 20th week of gestation. Dependent and nondependent edema is also commonly present though edema is a common finding in pregnancy in general.

(Choice B) Severe preeclampsia is characterized by hypertension greater than 160/ 110 mmHg, proteinuria greater than 5g/24h, oliguria, elevated liver enzymes, thrombocytopenia and possibly pulmonary edema.

(Choices C & F) Chronic hypertension in pregnancy implies hypertension that is not pregnancy induced such as essential hypertension. It is diagnosed when hypertension exists prior to pregnancy or when it appears before the 20th week of gestation. If proteinuria appears during the course of pregnancy, the condition is then called chronic hypertension with superimposed preeclampsia.

(Choice D) Transient hypertension occurs in the second half of pregnancy or during labor and delivery . Proteinuria may be present but does not exceed 300mg/24hr. If at some point the proteinuria exceeds 300mg/24hr, the diagnosis of preeclampsia is made .

(Choice E) Eclampsia is defined as the occurrence of grand mal seizures in patients with either mild or severe preeclampsia .

Educational objective:

Mild preeclampsia is defined clinically by hypertension greater than 140/90 mmHg and proteinuria greater than 0.3g/24h (300mg/24h) after the 20th week of gestation.

The correct answer is: . Mild preeclampsia



**Question 70**

Not answered

Marked out of 1.00

A 76-year-old woman presents for evaluation of urinary incontinence. She had a hysterectomy for fibroid tumors of the uterus at age 48. After complete evaluation, you determine that the patient has genuine stress urinary incontinence. On physical examination, she has a hypermobile urethra, but there is no cystocele or rectocele. There is no vaginal vault prolapse. Office cystometrics confirms genuine stress urinary incontinence. Which of the following surgical procedures should you recommend to this patient?

Select one:

- ☐ . Le Fort colpocleisis
- ☐ . Anterior and posterior colporrhaphy
- ☐ . Kelly plication
- ☐ . Burch procedure
- ☐ . Abdominal sacral colpopexy

(Beckmann, pp 293-294.) The Burch procedure is the most appropriate surgical treatment for stress urinary incontinence in this patient. Kelly plication is an older procedure used to suspend the urethra and has a lower cure rate for stress incontinence than the Burch procedure. The Burch procedure suspends the bladder neck to Cooper ligament of the pubic bone using an abdominal approach. Anterior and posterior colporrhaphy are procedures used to correct cystoceles and rectoceles and are not indicated in this patient. Sacral colpopexy is a procedure to repair prolapse of the vagina by suspending the vaginal vault from the sacrum. Le Fort colpocleisis is used in patients with uterine or vaginal prolapse.

The correct answer is: . Burch procedure

**Question 71**

Not answered

Marked out of 1.00

A 50-year-old woman is diagnosed with cervical cancer. Which lymph node group would be the first involved in metastatic spread of this disease beyond the cervix and uterus?

Select one:

- ☐ . External iliac nodes
- ☐ . Para-aortic nodes
- ☐ . Common iliac nodes
- ☐ . Parametrial nodes
- ☐ . Paracervical or ureteral nodes

Check

(DiSaia, pp 55-62.) The main routes of spread of cervical cancer include vaginal mucosa, myometrium, paracervical lymphatics, and direct extension into the parametrium. The prevalence of lymph node disease correlates with the stage of malignancy. Primary node groups involved in the spread of cervical cancer include the paracervical, parametrial, obturator, hypogastric, external iliac, and sacral nodes, essentially in that order. Less commonly, there is involvement in the common iliac, inguinal, and para-aortic nodes. In stage I, the pelvic nodes are positive in approximately 15% of cases and the para-aortic nodes in 6%. In stage II, pelvic nodes are positive in 28% of cases and para-aortic nodes in 16%. In stage III, pelvic nodes are positive in 47% of cases and para-aortic nodes in 28%.

The correct answer is: . Paracervical or ureteral nodes

**Question 72**

Not answered

Marked out of 1.00

A 25-year-old G1P1 comes to see you 6 weeks after an uncomplicated vaginal delivery for a routine postpartum examination. She denies any problems and has been breast-feeding her newborn without any difficulties since leaving the hospital. During the bimanual examination, you note that her uterus is irregular, firm, nontender, and about a 15-week size. Which of the following is the most likely etiology for this **enlarged uterus**?

Select one:

- ☐ . Endometritis
- ☐ . Subinvolution of the uterus
- ☐ . Fibroid uterus
- ☐ . The uterus is appropriate size for 6 weeks postpartum
- ☐ . Adenomyosis

(Cunningham, p 697. Beckmann, pp 148, 451.) The uterus achieves its previous nonpregnant size by about 4 weeks postpartum. Subinvolution (cessation of the normal involution) of the uterus can occur in cases of retained placenta or uterine infection. In such cases, the uterus is larger and softer than it should be on bimanual examination. In addition, the patient usually experiences prolonged discharge and excessive uterine bleeding. With endometritis, the patient will also have a tender uterus on examination, and will complain of fever and chills. In adenomyosis, portions of the endometrial lining grow into the myometrium, causing menorrhagia and dysmenorrhea. On physical examination, the uterus is usually tender to palpation, boggy, and symmetrically enlarged. The patient described here has a physical examination most consistent with fibroids. Uterine leiomyomas would cause the uterus to be firm, irregular, and enlarged.

The correct answer is: . Fibroid uterus

**Question 73**

Not answered

Marked out of 1.00

A 46-year-old woman presents with a 4-month history of a discharge from the nipple. An excisional biopsy of the nipple area reveals infiltration of the nipple by large cells with clear cytoplasm. These cells are found both singly and in small clusters in the epidermis and are PAS-positive and diastase resistant. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Phyllodes tumor, malignant
- ☐ . Ductal papilloma
- ☐ . Paget disease
- ☐ . Eczematous inflammation
- ☐ . Mammary duct ectasia

(Kumar, pp 1080-1082. Rubin, pp 850-852.) Infiltration of the nipple by large cells with clear cytoplasm is diagnostic of Paget disease. These cells are usually found both singly and in small clusters in the epidermis. Paget disease is always associated with (in fact, it begins with) an underlying intraductal carcinoma that extends to infiltrate the skin of nipple and areola. Paget cells may resemble the cells of superficial spreading melanoma, but they are PAS-positive and diastase-resistant (mucopolysaccharide- or mucin-positive), unlike melanoma cells. Eczematous dermatitis of the nipples is a major differential diagnosis, but is usually bilateral and responds rapidly to topical steroids. Paget disease should be suspected if the "eczema" persists more than 3 weeks with topical therapy. Paget disease occurs mainly in middle-aged women but is unusual. In Paget disease of the vulvar-anal-perineal region, there is very rarely underlying carcinoma. Mammary fibromatosis is a rare, benign spindle cell lesion affecting women in the third decade. Clinically, it may mimic cancer with retraction or dimpling of skin. It should be treated by local excision with wide margins since there is risk of local recurrence.

The correct answer is: . Paget disease

**Question 74**

Not answered

Marked out of 1.00

A 38-year-old woman comes to the physician because of burning with urination. She states that the burning started about 2 days ago and has been growing worse since. She has no frequency or urgency. She had one episode of pyelonephritis in the past but no other medical problems. On examination there is no costovertebral angle or abdominal tenderness. The examination is significant for a thick, white vaginal discharge with erythema and excoriations of the labia. Urinalysis is negative. KOH/Normal saline smear demonstrates

pseudohyphae. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Hemorrhagic ovarian cyst
- ☐ . Pelvic inflammatory disease
- ☐ . Pyelonephritis
- ☐ . Candida vaginitis
- ☐ . Urinary tract infection

Check

A patient with candidiasis classically presents with complaints of a thick, white, "cottage cheese-like" discharge. Such patient may also complain of vulvar pruritus and burning. Dysuria is often seen in cases of candidiasis because there is pain when the acidic urine comes in contact with the inflamed vaginal mucosa. This dysuria is often confused for a urinary tract infection. The keys to distinguishing between the two are the examination and laboratory studies. Examination on a patient with candidiasis often shows a thick, white, discharge as well as erythema of the vagina and vulva, as this patient has. The excoriations that this patient has are likely present because the patient has been scratching the area. In a urinary tract infection, examination of the vagina and vulva will most often be unremarkable. The KOH preparation will demonstrate pseudo-hyphae in cases of candidiasis. The urinalysis should be negative in cases of candidiasis, although if there is contamination of the sample, abnormalities may be seen. A hemorrhagic ovarian cyst (choice B) typically causes abdominal pain and tenderness. It usually does not cause burning with urination. The diagnosis of pelvic inflammatory disease (choice C) is made when a sexually active female has abdominal tenderness, cervical motion tenderness, and adnexal tenderness along with a fever, an elevated white blood cell count, a positive gonorrhea or Chlamydia test, or a mucopurulent cervical discharge. This patient does not have these findings. This patient does have a history of pyelonephritis (choice D) and therefore, pyelonephritis and urinary tract infection (choice E) would be considerations. However, the patient has no fever, costovertebral angle tenderness, or abnormal urinalysis, the three findings most helpful for the diagnosis of pyelonephritis. Also, while dysuria can often be a symptom of a

urinary tract infection, this patient's negative urinalysis and findings consistent with another process (namely candidiasis) make UTI less likely.

The correct answer is: . Candida vaginitis

**Question 75**

Not answered

Marked out of 1.00

A 29-year-old woman comes to the office for a periodic health maintenance examination. She has no complaints. Her past medical history is significant for irritable bowel syndrome. She has never had any surgery. She has been taking the oral contraceptive pill for the past 12 years, ever since she became sexually active. She has no known drug allergies. Physical examination, including pelvic examination, is unremarkable. By taking the oral contraceptive pill, this patient is decreasing her risk most significantly for which of the following?

Select one:

- ☐ . Cerebrovascular disease
- ☐ . Liver cancer
- ☐ . Breast cancer
- ☐ . Ovarian cancer
- ☐ . Cervical cancer

Check

Ovarian cancer represents the most common cause of death from gynecologic malignancy in the United States. Several studies have shown that oral contraceptive use decreases the risk for malignant and borderline epithelial ovarian cancer. The estimated risk reduction is approximately 40%. The amount of protection that the pill provides against the development of ovarian cancer seems to depend on the duration of use, with longer uses having increased protection. One study has shown that women who use oral contraceptive pills for a decade or longer have an 80% risk reduction for the development of ovarian cancer. The exact mechanism for how the oral contraceptive pill provides this protection is unknown, but there is some evidence that ovulation inhibition may play a central role.

The evidence concerning the oral contraceptive pill and breast cancer (choice A) does not show a significant protective effect. In fact, several studies have shown an increased risk for breast cancer associated with recent or current oral contraceptive use. Other studies, however, have not revealed this finding.

There is an increased risk for cerebrovascular disease (choice B) in patients who use the oral contraceptive pill. This risk is believed to be highest in women with hypertension, women who smoke cigarettes, and women who are older than 35 years of age.

It is also unclear whether oral contraceptive use increases or decreases a woman's risk for developing cervical cancer (choice C). Women on the oral contraceptive pill should have annual cervical cytologic screening.

Several reports in the 1980s raised concerns about a possible link between oral contraceptive pills and liver cancer (choice D). More recent reports have not confirmed those concerns.

The correct answer is: . Ovarian cancer

**Question 76**

Not answered

Marked out of 1.00

A 26-year-old G0P0 comes to your office with a chief complaint of being too hairy. She reports that her menses started at age 13 and have always been very irregular. She has menses every 2 to 6 months. She also complains of acne and is currently seeing a dermatologist for the skin condition. She denies any medical problems. Her only surgery was an appendectomy at age 8. Her height is 5ft 5 in., her weight is 180 lb, and her blood pressure is 100/60 mm Hg. On physical examination, there is sparse hair around the nipples, chin, and upper lip. No galactorrhea, thyromegaly, or temporal balding is noted. Pelvic examination is normal and there is no evidence of clitoromegaly. Which of the following is the most likely explanation for this patient's problem?

Select one:

- ☐ . Late-onset congenital adrenal hyperplasia
- ☐ . Adrenal tumor
- ☐ . Sertoli-Leydig cell tumor of the ovary
- ☐ . Idiopathic hirsutism
- ☐ . Polycystic ovarian syndrome

(Beckmann, pp 366-373.) Polycystic ovarian syndrome (PCOS) is the most common cause of androgen excess and hirsutism. Women with this syndrome often have irregular menstrual cycles. Given the history and physical examination in this patient, PCOS is the most likely diagnosis. Sertoli-Leydig cell tumors, also known as androblastomas, are testosterone-secreting ovarian neoplasms. These tumors usually occur in women between the ages of 20 and 40 and tend to be unilateral and reach a size of 7 to 10 cm. Women with a Sertoli-Leydig cell tumor tend to have very high levels of testosterone (> 200 ng/dL) and rapidly develop virilizing characteristics such as temporal balding, clitoral hypertrophy, voice deepening, breast atrophy, and terminal hair between the breasts and on the back. Women with idiopathic hirsutism have greater activity of 5 $\alpha$ -reductase than do unaffected women. They have hirsutism with a diagnostic evaluation that gives no explanation for the excess hair. Women with late-onset congenital adrenal hyperplasia are hirsute owing to an increase in adrenal androgen production caused by a deficiency in 21-hydroxylase.

The correct answer is: . Polycystic ovarian syndrome

**Question 77**

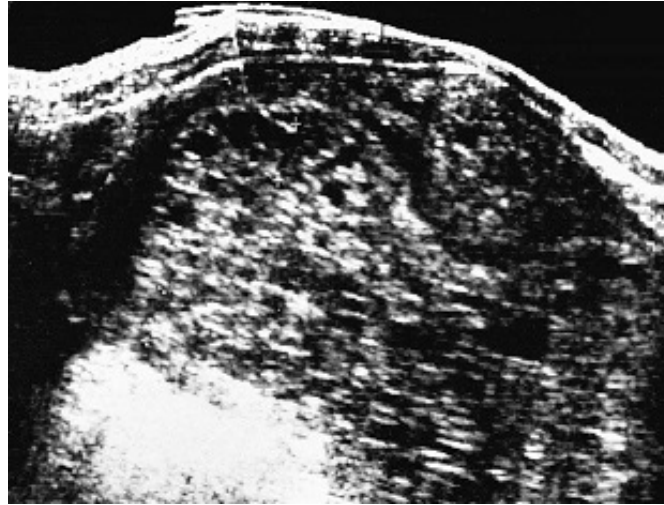
A 19-year-old primigravida is expecting her first child; she is 12 weeks



Not answered

Marked out of 1.00

pregnant by dates. She has vaginal bleeding and an enlarged-for-dates uterus. In addition, no fetal heart sounds are heard. The ultrasound shown below is obtained. Which of the following is true regarding the patient's diagnosis?



Select one:

- ☐ . Vaginal bleeding is a common symptom of hydatidiform mole
- ☐ . Older maternal age is not a risk factor for hydatidiform mole
- ☐ . The most common chromosomal makeup of a partial or incomplete mole is 46XX, of paternal origin
- ☐ . Hysterectomy is contraindicated as primary therapy for molar pregnancy in women who have completed childbearing
- ☐ . Partial or incomplete hydatidiform mole has a higher risk of developing into choriocarcinoma than complete mole

Check

(Fleisher, pp 732-735. Ransom, pp 511-515.) The history, clinical picture, and ultrasound of the woman in the question are characteristic of hydatidiform mole. The most common initial symptoms include an enlarged-for-dates uterus and continuous or intermittent bleeding in the first two trimesters. Other symptoms include hypertension, proteinuria, and hyperthyroidism. Hydatidiform mole is 10 times as common in the Far East as in North America, and it occurs more frequently in women older than 45 years of age. A tissue sample would show a villus with hydropic changes and no vessels. Grossly, these lesions appear as small, clear clusters of grapelike vesicles, the passage of which confirms the diagnosis. Hysterectomy may be considered as primary therapy for molar pregnancy in women who have completed childbearing.

The correct answer is: . Vaginal bleeding is a common symptom of

## hydatidiform mole

**Question 78**

Not answered

Marked out of 1.00

A 21-year-old woman, primigravida, presents at 39 weeks' gestation in active labor. She is 155 cm tall and weighs 75 kg. Her pregnancy weight gain has been 20 kg. On digital vaginal examination, the fetus is in cephalic presentation at -1 station. Her cervix is 5 cm dilated, 90% effaced, soft, midposition. Onset of regular uterine contractions was 8 hours ago, and she is now experiencing regular contractions every 3 minutes, lasting 45 seconds, which are firm to palpation. Clinical pelvimetry shows her pelvic dimensions as follows: pelvic sidewalls are straight, ischial spines are not prominent, pubic arch is wide, sacrum is hollow, and sacrosciatic notch is well rounded. Based on general bony architecture, the characteristics of this woman's pelvis identify it as which one of the following common female bony shapes?

Select one:

- ☐ Android
- ☐ Obstetroid
- ☐ Platypelloid
- ☐ Gynecoid
- ☐ Anthropoid

The classification of female bony pelvis types is based on the work of Caldwell and Moloy, who examined large numbers of x-ray pelvimetry films. These procedures hark back to the days when radiographs of the pelvis were obtained in cases of protracted labors. The pelvis described in this question is characteristic of the gynecoid shape (choice A). It is the most common shape, occurring in approximately 50% of women. The dimensions of the gynecoid shape allow optimal use of the pelvic diameters in obtaining a vaginal delivery.

Android pelvises (choice B) predispose to arrest of descent, anthropoid pelvises (choice C) predispose to occiput posterior position at delivery, and platypelloid pelvises (choice D) predispose to occiput transverse position at delivery. These pelvic shapes occur with frequencies of 30%, 20%, and 3%, respectively. Some women have combinations of features from more than one pelvic shape. Obstetroid (choice E) is not a formally described pelvic shape.

The correct answer is: Gynecoid

**Question 79**

Not answered

Marked out of 1.00

A 29-year-old woman presents with complaints of a vaginal discharge. She has had two **sexual partners** over the past 4 weeks, and she reports that she uses oral contraceptives and that her partners were not using condoms. Examination shows she is afebrile, with no lymphadenopathy. Pelvic examination shows no ulcers, but a thick white discharge is noted at the cervical os on speculum examination. A Gram stain of the discharge reveals gram negative diplococci. A sample of the discharge is also sent out for culture. The patient is appropriately treated and returns unhappily 3 weeks later with identical symptoms. A Gram stain of the discharge is **again** done, and this time reveals no organisms. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ Reinfection from an untreated sexual partner
- ☐ An undetected, underlying immunosuppression
- ☐ Noncompliance with antibiotic therapy
- ☐ A resistant strain of the original organisms
- ☐ Reinfection due to an occult urethral source

This patient has vaginal discharge and multiple sexual partners and does not use condoms, all of which suggests the presence of a sexually transmitted disease such as gonorrhea. Although Gram stain of cervical cultures is positive only 60% of the time, the presence of gram-negative diplococci is specific for the disease. It is extremely important to treat both patients and their partners for gonorrhea, because reinfection is usually caused by sexual exposure to an untreated partner. The standard treatment is a single intramuscular injection of ceftriaxone followed by a 7-day course of doxycycline to cover for the commonly co-occurring Chlamydia (note that in pregnant women, erythromycin is used instead of doxycycline to avoid tooth-mottling in the fetus).

The remaining choices answer choices are possible sources of recurrence, but are not the most likely cause of this patient's presentation.

The correct answer is: Reinfection from an untreated sexual partner

**Question 80**

Not answered

Marked out of 1.00

A 30-year-old female delivers a term male infant with signs of thyrotoxicosis. Prior to the pregnancy, she was surgically treated for **Graves'** disease and was prescribed hormone replacement therapy in the form of levothyroxine 0.25 mg daily. Levothyroxine was maintained during pregnancy and thyroid hormone levels were monitored and maintained within the reference range. Which of the following is the most likely cause of the neonate's condition?

Select one:

- ☐ . Active thyroid tissue in the mother secreting thyroid hormone
- ☐ . Levothyroxine therapy
- ☐ . Inadequate surgery with persistence of thyroid tissue post-operatively
- ☐ . Persistence of thyroid stimulating immunoglobulin in the mother
- ☐ . Delivery hemorrhage

In many patients with Graves disease, the circulating levels of thyroid stimulating immunoglobulin (TSI) remain as high as 500 times the normal value for several months following thyroidectomy. These IgG autoantibodies cross the placenta and can cause thyrotoxicosis in the fetus and the neonate by directly stimulating the fetal thyroid gland. Neonatal thyrotoxicosis is an uncommon clinical entity characterized by goiter, tachypnea, tachycardia, cardiomegaly, restlessness, diarrhea and poor weight gain in the infant typically within 1-2 days following delivery.

(Choice A) Levothyroxine does not cross the placenta to a significant degree.

(Choices B & D) This patient has been euthyroid since her thyroidectomy. This has been demonstrated by several thyroid hormone tests. The presence of excess hormone due to ectopic or residual tissue is not likely given her euthyroid state .

Educational objective:

Infants born to patients with Graves disease treated with surgery are at risk for thyrotoxicosis because of the passage of thyroid stimulating immunoglobulin across the placenta.

The correct answer is: . Persistence of thyroid stimulating immunoglobulin in the mother

**Question 81**

Not answered

A 47-year-old woman presents to your office with complaints of lower abdominal pain, nocturia, **urinary urgency** and frequency relieved with

Marked out of 1.00

urination. She states the symptoms have been worsening this past month and she recently experienced **dyspareunia**. She is sexually active with her husband, but this is causing her a great amount of pain. She has four children and had uncomplicated pregnancies. She denies fevers or chills. On examination, she has diffuse lower abdominal pain with no rebound or guarding. Her external genitalia appear normal. On bimanual examination, palpation of the anterior vaginal wall elicits extreme pain. No cervical motion tenderness is present. No other abnormalities are noted. A urinalysis is negative. The most likely diagnosis is:

Select one:

- ☐ . Urinary tract infection
- ☐ . Interstitial cystitis
- ☐ . Cystocele
- ☐ . Pelvic inflammatory disease
- ☐ . Stress incontinence

Check

Interstitial cystitis (IC) is a chronic condition of the bladder of uncertain etiology and pathophysiology. It is clinically characterized by the triad of urinary urgency and frequency as well as chronic pelvic pain in the absence of another disease that could cause the symptoms. Pelvic pain is occasionally the presenting symptom or chief complaint. The pelvic pain in interstitial cystitis is classically exacerbated by sexual intercourse, filling of the bladder, exercise, spicy foods and certain beverages. The pain is typically relieved by voiding. Cystoscopy classically demonstrates submucosal petechiae or ulcerations.

(Choice A) The negative urinalysis in this patient excludes a urinary tract infection. In patients with suspected IC, urinalysis and urine culture should be performed to rule out hematuria and infection.

(Choice B) Stress incontinence refers to involuntary leakage of urine with effort, exertion, sneezing or coughing. Pain is typically not a symptom of stress incontinence.

(Choice C) A cystocele refers to a herniation of the bladder with associated descent of the anterior vaginal wall. A cystocele can present with similar symptoms of urinary frequency, urgency and incontinence, but these lesions are most commonly asymptomatic and diagnosed incidentally. On examination a herniation of the upper anterior vaginal wall will be seen.

(Choice E) Pelvic inflammatory disease is characterized by pelvic pain, cervical motion tenderness and fever. Urinary symptoms are usually not present.

Educational objective:

Interstitial cystitis (painful bladder syndrome) is a chronic condition associated with pelvic pain worsened by bladder filling or intercourse accompanied by urinary frequency, urgency and nocturia.

The correct answer is: . Interstitial cystitis

**Question 82**

Not answered

Marked out of 1.00

A 27-year-old has just had an ectopic pregnancy. Which of the following events would be most likely to predispose to ectopic pregnancy?

Select one:

- ☐ . Exposure in utero to diethylstilbestrol (DES)
- ☐ . Induction of ovulation
- ☐ . Pelvic inflammatory disease (PID)
- ☐ . Use of a contraceptive uterine device (IUD)
- ☐ . Previous cervical conization

Check

(Katz, pp 391-398.) Any factor delaying transit of the ovum through the fallopian tube may predispose a patient to ectopic pregnancy. The major predisposing factor in the development of ectopic pregnancy is PID. However, any operative procedure on the fallopian tubes may increase a patient's risk. It appears that tubal sterilizations with laparoscopic fulguration have a higher rate of ectopic pregnancy than tubal ligations performed with clips or rings. Women who have had one ectopic pregnancy are at increased risk of having a second. DES exposure, induction of ovulation, and IUD use increase the possibility of ectopic pregnancy.

The correct answer is: . Pelvic inflammatory disease (PID)

**Question 83**

Not answered

Marked out of 1.00

A 29-year-old G2P1 at 40 weeks is in active labor. Her cervix is 5 cm dilated, completely effaced, and the vertex is at 0 station. She is on oxytocin to augment her labor and she has just received an **epidural for pain management**. The nurse calls you to the room because the fetal heart rate has been in the 70s for the past 3 minutes. The contraction pattern is noted to be every 3 minutes, each lasting 60 seconds, with return to normal tone in between contractions. The patient's vital signs are blood pressure 90/40 mm Hg, pulse 105 beats per minute, respiratory rate 18 breaths per minute, and temperature 36.1C (97.6F). On repeat cervical examination, the vertex is well applied to the cervix and the patient remains **5 cm dilated** and at 0 station, and no vaginal bleeding is noted. Which of the following is the most likely cause for the deceleration?

Select one:

- ☐ . Placental abruption
- ☐ . Uterine hyperstimulation
- ☐ . Pitocin
- ☐ . Cord prolapse
- ☐ . Epidural analgesia

(Cunningham, pp 484-485. Beckmann, pp 109-115.) Prolonged fetal heart rate decelerations are isolated decelerations lasting 2 minutes or longer, but less than 10 minutes from onset to return to baseline. Epidural analgesia is a very common cause of fetal heart rate decelerations because it can be associated with **maternal hypotension and decreased placental perfusion**. Therefore, maternal blood pressure should always be noted in cases of fetal heart rate decelerations. If maternal blood pressure is abnormally low, ephedrine can be given to correct the hypotension. Because an umbilical cord prolapse can be associated with decelerations, the patient should undergo a cervical examination. In addition, the Pitocin infusion should be stopped because hyperstimulation of the uterus can be a cause of fetal hypoxia. The patient should be turned to the left lateral position to decrease uterine pressure on the great vessels and enhance uteroplacental flow. Supplemental oxygen should be given to the patient in an attempt to increase oxygen to the fetus. Only if the heart rate deceleration persists is a cesarean section performed.

The correct answer is: . Epidural analgesia

**Question 84**

Not answered

Marked out of 1.00

A 26-year-old woman complains of a vaginal discharge causing burning and itching of the perineum. The pH of the discharge is 4.5. Which of the following is the most likely cause of her discharge?

Select one:

- ☐ trichomonas vaginitis
- ☐ chlamydial cervicitis
- ☐ gonococcal cervicitis
- ☐ bacterial vaginosis
- ☐ monilial vaginitis

The normal pH of the vagina is 3.8–4.2. In women with a vaginal discharge, a pH less than 5.0 suggests monilial vaginitis or a physiologic discharge of normal squamous cells desquamated from the vaginal epithelium. A pH greater than 5.0 suggests some type of bacterial infection, such as bacterial vaginosis or trichomonas vaginitis. The diagnosis of bacterial vaginosis is based on the presence of 3 of 4 characteristics: pH greater than 4.5, a homogenous thin appearance of the vaginal discharge, a fishy amine odor after the addition of 10% potassium hydroxide (KOH) to the discharge, and clue cells present in 20–50% of vaginal epithelial cells. Clue cells are bacteria adherent to the surface of vaginal epithelial cells. Lactobacilli are absent from the vagina in women with bacterial vaginosis. Both chlamydia and gonorrhea infect the cervix and do not change the vaginal pH. (Scott et al., 2003, pp. 585–589)

The correct answer is: monilial vaginitis

**Question 85**

Not answered

Marked out of 1.00

A 12-year-old female comes to the physician because of a vaginal discharge. The discharge started about 2 months ago and is whitish in color. There is no odor. The patient has no complaints of itching, burning, or pain. The patient started breast development at 9 years of age and her pubertal development has proceeded normally to this point. She has not had her first menses and she is not sexually active. She has no medical problems. Examination is normal for a 12-year-old female. Microscopic examination of the discharge shows no evidence of pseudohyphae, clue cells, or trichomonads. Which of the following is the most likely diagnosis?

Select one:



- ☐ . Physiologic leukorrhea
- ☐ . Bacterial vaginosis
- ☐ . Trichomoniasis
- ☐ . Syphilis
- ☐ . Candida vulvovaginitis

Check

Physiologic leukorrhea can be seen during 2 different periods of childhood. Some female neonates develop a physiologic leukorrhea shortly after birth as maternal circulating estrogens stimulate the newborn's endocervical glands and vaginal epithelium. The discharge in these neonates is often gray and gelatinous.

Physiologic leukorrhea can also be seen during the months preceding menarche. During this time, rising estrogen levels lead to a whitish discharge not associated with any symptoms of irritation. This patient has a whitish discharge, no other symptoms, and she has had normal pubertal development up to this point. The discharge itself has no characteristics of infection. Therefore, physiologic leukorrhea is the most likely diagnosis. Bacterial vaginosis (choice A) is not the most likely diagnosis in this patient because the discharge is not malodorous and there are no clue cells seen on microscopic examination of the discharge. Candida vulvovaginitis (choice B) is not the most likely diagnosis because the discharge is not thick and white (or "cottage-cheese"-like) and the patient has no irritative symptomatology. Syphilis (choice D) most often presents with a painless ulcer (called a chancre) or is found with serologic testing. A nonmalodorous, whitish vaginal discharge in a 12-year-old female who is not sexually active is almost certainly not evidence of syphilis. Trichomoniasis (choice E) is also highly unlikely in this patient and the lack of trichomonads on the microscopic examination effectively rules out this diagnosis.

The correct answer is: . Physiologic leukorrhea

**Question 86**

Not answered

Marked out of 1.00

A married 41-year-old G5P3114 presents to your office for a routine examination. She reports being healthy except for a history of migraine headaches. All her Pap smears have been normal. She developed gestational diabetes in her last pregnancy. She drinks alcohol socially, and admits to smoking occasionally. Her grandmother was diagnosed with ovarian cancer when she was in her fifties. Her blood pressure is 140/90 mm Hg; height is 5ft 5 in; weight is 150 lb. Which of the following is the most common cause of death in women of this patient's age?

Select one:

- ☐ . Cancer
- ☐ . Cardiac disease
- ☐ . Accidents
- ☐ . Suicide
- ☐ . HIV

(Katz, pp 148-152. ACOG Guidelines for Women's Health Care, pp 145-158.) The leading causes of death in women aged 40 to 64, in order of decreasing incidence, are as follows: cancer, diseases of the heart, cerebrovascular diseases, accidents, chronic obstructive pulmonary disease, diabetes mellitus, chronic liver disease and cirrhosis, and pneumonia and influenza.

The correct answer is: . Cancer

**Question 87**

Not answered

Marked out of 1.00

A 41-year-old woman, gravida 3, para 3, comes to the physician because of a 2-year history of dysmenorrhea and menorrhagia that has been increasing in intensity. She has no dyspareunia or any other symptoms. She has a history of chronic hypertension. She had a cesarean section in her 3rd pregnancy followed by surgical sterilization. Vital signs are normal. Bimanual examination shows a symmetrically enlarged and tender uterus with soft consistency and free adnexae. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Adenomyosis
- ☐ . Endometriosis
- ☐ . Endometrial carcinoma
- ☐ . Endometritis

☐ . Leiomyomata

Check

Adenomyosis is defined as the presence of endometrial glands in the uterine muscle. This invasion can extend through the full thickness of the myometrium and in some instances to the serosa of the uterus. It occurs most frequently in women above 40 and typically presents with severe dysmenorrhea and menorrhagia. The physical exam reveals an enlarged and generally symmetrical uterus. The differential diagnosis includes leiomyoma and endometrial carcinoma. For women above 35, it is mandatory to perform an endometrial curettage to rule out endometrial carcinoma .

(Choice B) Endometriosis is a benign condition where foci of endometrial glands and stroma are found in locations outside the uterus. The uterus is not diffusely enlarged.

(Choice C) Leiomyomas or uterine fibroids can be very difficult to distinguish from adenomyosis because both can present with dysmenorrhea, menorrhagia and a large-sized uterus. A uterus affected by fibroids is usually irregularly shaped .

(Choice D) Endometrial carcinoma typically occurs after menopause. Because this patient is over 35, endometrial curettage is mandatory to rule out endometrial carcinoma.

(Choice E) Endometritis manifests with fever, an enlarged and tender uterus and foul smelling vaginal discharge. It usually occurs after a septic abortion or in the postpartum period (puerperal fever).

Educational objective:

Adenomyosis occurs most frequently in multiparous women above 40 years of age and typically presents with dysmenorrhea and menorrhagia. The physical exam reveals an enlarged and generally symmetrical uterus. In contrast, a fibroid uterus is usually irregularly shaped.

The correct answer is: . Adenomyosis

**Question 88**

Not answered

Marked out of 1.00

A 40-year-old G3P3 comes to your office for a routine annual GYN examination. She tells you that she gets up several times during the night to void. On further questioning, she admits to you that during the day she sometimes gets the urge to void, but sometimes cannot quite make it to the bathroom. She attributes this to getting older and is not extremely concerned, although she often wears a pad when she goes out in case she loses some urine. This patient is very healthy otherwise and does not take any medication on a regular basis. She still has regular, monthly menstrual periods. She has had three normal spontaneous vaginal deliveries of infants weighing between 7 and 8 lb. An office dipstick of her urine does not indicate any blood, bacteria, WBCs, or protein. Her urine culture is negative. Based on her office presentation and history, which of the following is the most likely diagnosis?

Select one:

- ☐ . Vesicovaginal fistula
- ☐ . Overflow incontinence
- ☐ . Bladder dyssynergia
- ☐ . Urinary stress incontinence
- ☐ . Urinary tract infection

(Katz, pp 560-561. Beckmann, pp 292-297.) The presentation of the patient in question 412 is most consistent with bladder dyssynergia (urge incontinence). Urge incontinence is the involuntary loss of urine associated with a strong desire to void. Most urge incontinence is caused by detrusor or bladder dyssynergia in which there is an involuntary contraction of the bladder during distension with urine. The management of urge incontinence includes bladder training, elimination of excess caffeine and fluid intake, biofeedback, or medical therapy. If conservative measures fail, treatment with anticholinergic drugs (oxybutynin chloride),  $\beta$ -sympathomimetic agonists (metaproterenol sulfate), Valium, antidepressants (imipramine hydrochloride), and dopamine agonists (Parlodel) have been successful. These pharmacologic agents will relax the detrusor muscle. In postmenopausal women who are not on estrogen replacement therapy, estrogen therapy may improve urinary control. Kegel exercises may strengthen the pelvic musculature and improve bladder control in women with stress urinary incontinence.

The correct answer is: . Bladder dyssynergia

**Question 89**

Not answered

Marked out of 1.00

A 32-year-old infertile, obese nulligravida complains of secondary **dysmenorrhea** as well as pain with intercourse and bowel movements. She is sexually active but has never used any contraceptive methods. Bimanual pelvic examination reveals a 7 cm right adnexal mass. On rectovaginal examination, she is found to have uterosacral ligament nodularity and a fixed retroverted uterus. Which of the following is the most likely diagnosis?

Select one:

- ☐ Mucinous cystadenoma
- ☐ Endometrioma
- ☐ Theca-lutein cyst
- ☐ Luteoma of pregnancy
- ☐ Polycystic ovaries

The case scenario is characteristic for endometriosis (choice J). Endometriomas are cysts on the ovary that result from accumulation of menstrual-like detritus from endometriosis. These “chocolate cysts” can enlarge to several centimeters in size. Endometriosis is responsible for 75% of chronic pelvic pain in women and is implicated in 40% of infertility cases. The correct answer is: Endometrioma

**Question 90**

Not answered

Marked out of 1.00

A 51-year-old woman is diagnosed with invasive cervical carcinoma by cone biopsy. Pelvic examination and rectal-vaginal examination reveal the parametrium to be free of disease, but the upper portion of the vagina is involved with tumor. Intravenous pyelography (IVP) and sigmoidoscopy are negative, but a computed tomography (CT) scan of the abdomen and pelvis shows grossly enlarged pelvic and periaortic nodes. This patient is classified at which of the following stages?

Select one:

- ☐ . IIb
- ☐ . IIIb
- ☐ . IV
- ☐ . IIIa
- ☐ . IIa

(Hoskins, pp 827-828.) Cervical cancer is still staged clinically. Physical examination, routine x-rays, barium enema, colposcopy, cystoscopy, proctosigmoidoscopy, and IVP are used to stage the disease. CT scan results, while clinically useful, are not used to stage the disease. Stage I disease is limited to the cervix. Stage Ia disease is preclinical (ie, microscopic), while stage Ib denotes macroscopic disease. Stage II involves the vagina, but not the lower one-third, or infiltrates the parametrium, but not out to the pelvic side wall. Stage IIa denotes vaginal but not parametrial extension, while stage IIb denotes parametrial extension. Stage III involves the lower one-third of the vagina or extends to the pelvic side wall; there is no cancerfree area between the tumor and the pelvic wall. Stage IIIa lesions have not extended to the pelvic wall, but involve the lower one-third of the vagina. Stage IIIb tumors have extension to the pelvic wall and/or are associated with hydronephrosis or a nonfunctioning kidney caused by tumor. Stage IV is outside the reproductive tract.

The correct answer is: . IIa

**Question 91**

Not answered

Marked out of 1.00

A 14-year-old female is brought to the physician's office for evaluation of excessive menstrual bleeding. She experienced menarche at age 13, and since then her menses have been irregular and unpredictable. Her last menstrual period was 6 weeks ago and for the past week she has been having heavy menstrual bleeding. She has never been sexually active. Vital signs are stable. Her external genitalia are normal. She refused pelvic

examination, and a pregnancy test is negative. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ . Bleeding disorder
- ☐ . Cervical polyp
- ☐ . Endometrial carcinoma
- ☐ . Uterine fibroids
- ☐ . Anovulation

Check

The patient described is most likely experiencing menorrhagia, which is defined as prolonged or heavy menstruation, typically lasting longer than 7 days or exceeding 80 ml. In a young patient that has only recently experienced menarche, heavy menses with an irregular cycle can be attributed to anovulatory cycles. Females in this age group have an immature hypothalamic-pituitary-ovarian axis that may fail to produce gonadotropins (LH and FSH) in the proper quantities and ratios to induce ovulation. Up to 90% of all menstrual cycles in the first year after menarche may be anovulatory. Because the endometrium is responsive to baseline estrogen levels during the female's cycle, the endometrium will develop and eventually slough resulting in some cyclic bleeding due to a breakthrough phenomenon.

(Choice A) Bleeding disorders (coagulopathies) result in unusually heavy menses (not irregular) that may frequently require blood transfusions.

(Choice C) Cervical polyps are common benign neoplasms of the cervix that may cause occasional bleeding, especially following trauma as may occur during intercourse. Irregular periods are not seen. Polyps are not common in this age group.

(Choices D & E) Endometrial carcinoma and uterine fibroids are potential causes of abnormal uterine bleeding particularly in the postmenopausal age group. These are unlikely in the patient described.

Educational objective:

Most menstrual cycles in the first one to two years following menarche are anovulatory. These cycles are typically irregular and may be complicated by menorrhagia.

The correct answer is: . Anovulation

**Question 92**

Not answered

Marked out of 1.00

A postmenopausal woman is undergoing evaluation for fecal incontinence. She has no other diagnosed medical problems. She lives by herself and is self-sufficient, oriented, and an excellent historian. Physical examination is completely normal. Which of the following is the most likely cause of this patient's condition?

Select one:

- ☐ . Diabetes
- ☐ . Senility
- ☐ . Obstetric trauma
- ☐ . Rectal prolapse
- ☐ . Excessive caffeine intake

(Rock, pp 1127-1130.) The most common cause of fecal incontinence is obstetric trauma with inadequate repair. The rectal sphincter can be completely lacerated, but as long as the patient retains a functional puborectalis sling, a high degree of continence will be maintained. Generally, the patient is continent of formed stool but not of flatus. Other causes of fecal incontinence include senility, central nervous system (CNS) disease, rectal prolapse, diabetes, chronic diarrhea, and inflammatory bowel disease. While rectal prolapse, CNS disease, and senility are thus potential causes of this condition, they can be excluded by the history of the patient in the question. Approximately 20% of all diabetics complain of fecal incontinence. Therapy for fecal incontinence includes bulk-forming and antispasmodic agents, especially in those patients presenting with diarrhea. All caffeinated beverages should be stopped. Biofeedback and electrical stimulation of the rectal sphincter are other possible conservative treatments. Surgical repair of a defect is indicated when conservative measures fail, when the defect is large, or when symptoms warrant a more aggressive treatment approach.

The correct answer is: . Obstetric trauma

**Question 93**

Not answered

Marked out of 1.00

A 20-year-old woman presents to her gynecologist complaining of several days of vaginal itching and increased vaginal secretions that have an unpleasant odor. She denies any recent fever, back pain, hematuria, or vaginal bleeding. She has been sexually active with multiple sexual partners and rarely uses protection. On examination she has a moderate amount of frothy green discharge. Amine "whiff" test of the discharge is negative, and the pH of the discharge is 6. Multiflagellated organisms are seen on microscopy.



Which of the following is the most likely diagnosis?

Select one:

- ☐ Neisseria gonorrhoeae infection
- ☐ Trichomoniasis
- ☐ Bacterial vaginosis
- ☐ Syphilis
- ☐ Vaginal candidiasis

Check

*Trichomonas vaginalis* is a protozoan with multiple flagella that causes a sexually transmitted vaginitis. Most commonly occurring symptoms include increased vaginal discharge with an unpleasant odor, dysuria, and vaginal pruritus. Infection with *Trichomonas* causes an increase in vaginal pH to  $>4.5$  (normal vaginal pH is 3.8–4.2). Treatment with a single dose of 2 g of metronidazole is effective. The symptoms, increased vaginal pH, and flagellated organisms seen on wet mount establish the diagnosis.

Answer A is incorrect. Bacterial vaginosis is caused by an imbalance in vaginal flora, with reduced numbers of lactobacilli and increased proportions of bacteria such as *Gardnerella*, *Mobiluncus*, or *Peptostreptococcus* species. Signs of infection include a thin, white vaginal discharge, vaginal pH  $>4.5$ , fishy odor on 10% potassium hydroxide “whiff” test, and clue cells on saline mount microscopy. Flagellated organisms would not be seen in bacterial vaginosis.

Answer B is incorrect. Patients suffering from *Neisseria gonorrhoeae* cervicitis often complain of vaginal pruritus and discharge. However, up to 50% of patients may not manifest any symptoms at all. Diagnosis is established by identification of *N. gonorrhoeae* on chocolate agar culture or by DNA probe testing. The potassium hydroxide “whiff” test would be negative and no flagellated organisms would be seen.

Answer C is incorrect. The first manifestation of syphilis, caused by infection with *Treponema pallidum*, is a painless primary chancre sore that appears 10–60 days after the infecting sexual contact. Several weeks later, symptoms of secondary syphilis can occur, which include constitutional symptoms, a maculopapular rash on the hands and feet, and flat, broad condylomata. Vaginal symptoms do not result from syphilis, and flagellated organisms would not be seen. *Treponema* obtained from syphilitic lesions can be visualized with darkfield microscopy.

Answer E is incorrect. Patients with candidiasis often complain of a thick vaginal discharge, vaginal pruritus, or dysuria. Signs of candidiasis include vaginal pH in the range of 4–5, and budding hyphae or spores when examined on a slide treated with 10% potassium hydroxide preparation, which lyses the cells in the sample and makes the yeast easier to visualize. Clue cells are not seen in candidiasis.

The correct answer is: Trichomoniasis

**Question 94**

Not answered

Marked out of 1.00

A 20-year-old G2P0020 with an LMP 5 days ago presents to the emergency room complaining of a 24-hour history of increasing pelvic pain. This morning she experienced chills and a fever, although she did not take her temperature. She reports no changes in her urine or bowel habits. She has had no nausea or vomiting. She is hungry. She denies any medical problems. Her only surgery was a laparoscopy performed last year for an ectopic pregnancy. She reports regular menses and denies dysmenorrhea. She is currently sexually active. She has a new sexual partner and had sexual intercourse with him just prior to her last menstrual period. She denies a history of any abnormal Pap smears or sexually transmitted diseases. Urine pregnancy test is negative. Urinalysis is completely normal. WBC is 18,000. Temperature is 38.8C (102F). On physical examination, her abdomen is diffusely tender in the lower quadrants with rebound and voluntary guarding. Bowel sounds are present but diminished. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Pelvic inflammatory disease
- ☐ . Ruptured ovarian cyst
- ☐ . Kidney stone
- ☐ . Ovarian torsion
- ☐ . Endometriosis

Check

(Katz, pp 614-624.) Ovarian torsion, appendicitis, and acute salpingitis are all commonly associated with fever, abdominal pain, and elevated white blood cell count. Ruptured ovarian cysts present with acute abdominal pain without fever. Ovarian torsion is usually associated with an adnexal mass. Pain from ruptured ovarian cysts may occur at any time throughout the menstrual cycle but often present around the time of ovulation. Although appendicitis is in the differential diagnosis in any woman presenting with abdominal pain and fever, it is unlikely in the patient in question 323 as she has had no nausea,

vomiting, or anorexia. In cases of kidney stone, urinalysis usually indicates the presence of blood. In addition, the pain is usually in the flank areas. The timing of the symptoms of the patient in question 323 and her history of a new sexual partner make acute salpingitis the most likely diagnosis. A tubo-ovarian abscess (TOA) may form in a patient with untreated pelvic inflammatory disease. A patient with a tubo-ovarian abscess should be initially hospitalized and treated with intravenous antibiotics. Patients with TOAs, who does not improve on broad-spectrum antibiotics, may require drainage of the abscesses by laparotomy, laparoscopy, or percutaneously under CT guidance.

The recommendation of Centers for Disease Control for inpatient management of PID includes the following:

1. Cefoxitin 2 g IV every 6 hours or cefotetan 2 g IV every 12 hours plus doxycycline 100 mg PO or IV twice daily

or

2. Clindamycin 900 mg IV every 8 hours plus gentamicin loading dose IV or IM (2 mg/kg) followed by maintenance dose (1.5 mg/kg) every 8 hours

The recommendation of Centers for Disease Control for the outpatient management of PID includes the following:

1. Cefoxitin 2 g IM plus probenecid 1 g PO in a single dose concurrently or ceftriaxone 250 mg IM plus doxycycline 100 mg PO twice daily for 14 days

or

2. Ofloxacin 400 mg PO two times a day for 14 days plus either clindamycin 450 mg PO four times a day or metronidazole 500 mg PO two times a day for 14 days

The decision for inpatient versus outpatient treatment of a patient with pelvic inflammatory disease depends upon several factors such as patient compliance, tolerance of oral medications, and certainty of diagnosis.

The correct answer is: . Pelvic inflammatory disease

### Question 95

Not answered

Marked out of 1.00

A 24-year-old woman comes to the physician for her third prenatal check-up at 12 weeks gestation. She has been feeling well for the last 4 weeks because she no longer has nausea and vomiting. She had a small dark brown discharge 4 weeks ago, but it stopped spontaneously. Physical examination shows the cervix is closed and fetal heart tones are not heard. Real-time ultrasonogram shows a collapsed gestational sac with absent fetal heart motion. Urine pregnancy test is positive. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Hydatiform mole
- ☐ . Complete abortion
- ☐ . Missed abortion
- ☐ . Threatened abortion
- ☐ . Inevitable abortion

Check

Abortion is a spontaneous loss of pregnancy that occurs before 20 weeks gestation. It is also defined as the expulsion of a fetus, or an embryo, weighing 500g, or less. The patient in this case has a missed abortion, which involves a dead fetus that is still retained in the uterus. The diagnosis is suspected when there is disappearance of the nausea and vomiting characteristic of early pregnancy, and an arrest of uterine growth. The cervix is closed and the diagnosis is confirmed by ultrasonography, which reveals a ruptured gestational sac with no fetal cardiac activity .

(Choice A) Hydatiform mole symptoms include first trimester vaginal bleeding possibly associated with the expulsion of villi (vesicles), excessive nausea and vomiting and uterine size larger than what would be expected from the gestational age. Ultrasonography shows a "snow storm" appearance, and serum beta-hCG levels are increased.

(Choice B) Threatened abortion is any hemorrhage occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted and the fetal heart is active on ultrasound.

(Choice C) In complete abortion the whole conceptus is evacuated. After this evacuation, the cervix closes and abdominal pain subsides. Ultrasonography shows an empty uterus.

(Choice D) Inevitable abortion manifests with vaginal bleeding, lower abdominal cramps that may radiate to the back and perineum and a dilated cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion. Incomplete abortion has the same presentation except that there is an incomplete evacuation of the conceptus. Ultrasonography reveals endometrial debris.

Educational objective:

Missed abortion involves a dead fetus that is still retained in the uterus. The diagnosis is suspected when there is disappearance of the nausea and vomiting of early pregnancy, and an arrest of uterine growth.

The correct answer is: . Missed abortion

**Question 96**

Not answered

Marked out of 1.00

A 21-year-old woman presents to the clinic in tears. She states that she recently found out she was pregnant at 10 weeks' gestation. She is a recovering alcoholic but recently relapsed, consuming several drinks a day. She is nervous about the effects of her drinking on her fetus. For which of the following is the patient at greatest risk?

Select one:

- ☐ Polyhydramnios
- ☐ Hypoplastic lung
- ☐ Eclampsia
- ☐ Microcephaly
- ☐ Macrosomia

The prevalence of fetal alcohol syndrome (FAS) among moderate to heavy drinkers and alcoholics is 10%–50%. The diagnosis is based upon three criteria: IUGR (confirmed pre- or postnatal weight or height at or above 10th percentile), facial dysmorphism (smooth philtrum, thin vermilion border, short palpebral fissures, hypoplastic midface, and microcephaly), and central nervous system abnormalities (structural or functional abnormalities, including mental restriction). FAS patients also have an increased risk of cardiac defects.

Answer A is incorrect. Preeclampsia is defined as new-onset hypertension, proteinuria, and/or nondependent edema occurring at >20 weeks' gestation. Eclampsia is seizures in a patient with preeclampsia. Risk factors include nulliparity, black race, extremes of age, multiple gestation, molar pregnancy, renal disease, family history of preeclampsia, and chronic hypertension. Preeclampsia is not associated with FAS.

Answer B is incorrect. Pulmonary hypoplasia occurs secondary to severe reduction in amniotic fluid and is often related to kidney dysgenesis or dysfunction, not FAS.

Answer C is incorrect. Macrosomia is defined as fetal weight >4.0 kg, or birth weight >90th percentile for gestational age. Maternal gestational diabetes mellitus is a risk factor for macrosomia. It is thought that the fetal pancreas produces excess insulin as a result of increased maternal blood glucose. This results in large fat deposits which cause the fetus to grow excessively large. Patients with FAS experience IUGR.

Answer E is incorrect. Excess amniotic fluid may be a result of fetal anomalies including duodenal atresia, tracheoesophageal fistula, or anencephaly. These anomalies prevent the fetus from ingesting amniotic fluid. FAS does not include these anomalies.

The correct answer is: Microcephaly

**Question 97**

Not answered

Marked out of 1.00

A 19-year-old nulligravid woman at 38 weeks' gestation comes to her physician because she has passed bloody mucus discharge. Her prenatal course was unremarkable including a normal 19-week ultrasound. On speculum examination, there are no vaginal or cervical lesions. On vaginal examination, the cervix is 2 cm dilated and 100% effaced, and the fetus is at +1 station. The fetal heart rate has a baseline of 140 and is reactive. She has painful contractions every 2 minutes. One hour later the patient's cervix is 3 cm dilated, and a small amount of bloody mucus is noted on the examining glove. Which of the following is the most likely diagnosis?

Select one:

- ☐ Early labor
- ☐ Vasa previa
- ☐ Placental abruption
- ☐ Urinary tract infection
- ☐ Placenta previa

Check

Bleeding in the third trimester can be caused by a number of processes and must be taken very seriously by the physician. The differential diagnosis for third-trimester bleeding includes placenta previa, placental abruption, vasa previa (when fetal vessels course over the internal cervical os), cervical, vaginal, or vulvar lesions, hematuria, and hematochezia. Also on the differential is "bloody show," the bloody mucus that a woman in labor passes as she undergoes cervical dilation. This patient has regular, painful contractions, is passing bloody mucus, and is changing her cervix. These findings are most consistent with early labor.

Placental abruption (choice B) is characterized by vaginal bleeding, abdominal pain, and uterine contractions (or increased uterine tone). Fetal distress is seen in more than 50% of cases. The bleeding of an abruption is not bloody mucus but rather frank blood that is often dark red. This patient

had bloody mucus, not frank blood, and consistent contractions with cervical change. Her signs and symptoms make labor, and not abruption, the most likely diagnosis.

Placenta previa (choice C) can also cause thirdtrimester bleeding. Whereas abruption is typically characterized by painful vaginal bleeding, previa is classically characterized as painless vaginal bleeding. Diagnosis of a placenta previa is made by ultrasound. This patient had a normal ultrasound at 19 weeks' gestation, with no evidence of previa; therefore, placenta previa would not be the most likely diagnosis.

Urinary tract infection (choice D) can present with hematuria. Typically it is a microscopic hematuria, not bloody mucus. Although this patient could have a urinary tract infection, given her signs and symptoms this is not the most likely diagnosis.

Vasa previa (choice E) occurs when the fetal vessels pass over the internal cervical os. Bleeding from vasa previa will lead to fetal distress evidenced by changes in the fetal heart tracing. Fetal tachycardia or bradycardia may be seen. When fetal anemia results, a sinusoidal heart rate is often seen. This patient has a reactive fetal heart tracing and a more likely cause for her bleeding (labor).

The correct answer is: Early labor

**Question 98**

Not answered

Marked out of 1.00

A 30-year-old G2P1001 patient comes to see you in the office at 37 weeks gestational age for her routine OB visit. Her first pregnancy resulted in a vaginal delivery of a 9-lb 8-oz baby boy after 30 minutes of pushing. On doing Leopold maneuvers during this office visit, you determine that the fetus is breech. Vaginal examination demonstrates that the cervix is 50% effaced and 1 to 2 cm dilated. The presenting breech is high out of the pelvis. The estimated fetal weight is about 7 lb. The patient denies having any contractions. You send the patient for a sonogram, which confirms a fetus with a double footling breech presentation. There is a normal amount of amniotic fluid present and the head is hyperextended in the “stargazer” position. Which of the following is the best next step in the management of this patient?

Select one:

- ☐ . Schedule an external cephalic version in the next few days.
- ☐ . Schedule a cesarean section at or after 41 weeks gestational age.
- ☐ . Send the patient to labor and delivery immediately for an emergent cesarean section.
- ☐ . Allow the patient to go into labor and do an external cephalic version at that time if the fetus is still in the double footling breech presentation.
- ☐ . Allow the patient to undergo a vaginal breech delivery whenever she goes into labor.

(Cunningham, pp 208, 212, 377-380, 392-393, 425- 426, 900-901.) The decrease in fundal height between visits can be explained by engagement of the fetal head, which is verified on vaginal examination with determination of the presenting part at 0 station. Engagement of the fetal head commonly occurs before labor in nulliparous patients. Therefore it is appropriate for the patient to return for another scheduled visit in a week. Intrauterine growth lag is unlikely because there will usually be a greater discrepancy (> 3 cm) between fundal. Therefore, the patient does not need to be induced. Since the patient has been reporting good fetal movement and is not postterm, there is no indication to do antepartum testing such as an NST. A fern test is not indicated since the patient has not reported leakage of fluid. An assessment of amniotic fluid to detect oligohydramnios is not indicated since the fundal height is appropriate for the patient's gestational age.

The correct answer is: . Schedule an external cephalic version in the next few days.



**Question 99**

Not answered

Marked out of 1.00

A 22-year-old professional tennis player presents to your office with a 5-month history of amenorrhea. She describes an intense schedule of regular exercise, and says that she eats a balanced diet but avoids fatty foods. She does not smoke or consume alcohol. Her mother suffers from long-standing hypertension. The patient's BMI is 22.5 kg/mm<sup>2</sup>. Pregnancy test is negative. The patient is at greatest risk for which of the following?

Select one:

- ☐ . Atypical endometrial hyperplasia
- ☐ . Cholesterol precipitation in the gallbladder
- ☐ . Decreased bone mineral density
- ☐ . Decreased thyroid function
- ☐ . Poor glucose tolerance

This patient has hypogonadotropic hypogonadism secondary to low FSH and LH concentrations, putting her at increased risk for osteoporosis.

Hypogonadotropic hypogonadism can result from strenuous exercise, anorexia nervosa, marijuana use, starvation, stress, depression, and chronic illness. Excessive exercise is the most likely cause in this patient. Her BMI is not consistent with anorexia nervosa. Aside from amenorrhea, hypogonadotropic hypogonadism has several other complications. As FSH and LH drop, so too do sex hormones like estrogen and testosterone. This predisposes patients to osteoporosis and decreased muscle bulk. Patients will also often suffer from infertility.

(Choice A) Hypogonadotropic hypogonadism can be the direct result of hypothyroidism, or can be the result of a condition that is simultaneously causing hypothyroidism. For example, pituitary pathology may cause decreased release of LH, FSH, and TSH. However, hypogonadotropic hypogonadism will not cause decreased thyroid function.

(Choice C) Atypical endometrial hyperplasia can be seen in conditions associated with excessive levels of circulating estrogens or estrogen-like compounds.

(Choice D) This patient has a normal BMI and exercises regularly, putting her at low risk for glucose intolerance, the pathologic underpinning of diabetes mellitus type 2.

(Choice E) The classic risk factors for cholelithiasis are: age in 40s, overweight or obese, and female. This patient only has one risk factor for cholelithiasis.

(Choice F) Major risk factors for gout include male gender, diuretic use, alcohol consumption, obesity, and diet rich in purines (organ meats, game, seafood). This patient is not at high risk for gout.

Educational objective:

Hypogonadotropic hypogonadism is a decrease in circulating sex hormones due to decreased concentrations of LH and FSH. This condition increases a patient's risk of osteoporosis. Common causes include strenuous exercise, anorexia nervosa, marijuana use, starvation, stress, depression, and chronic illness.

The correct answer is: . Decreased bone mineral density

### Question 100

Not answered

Marked out of 1.00

A 36-year-old woman, gravida 3, para 2, at 33 weeks' gestation comes to the physician for a prenatal visit. She has some fatigue but no other complaints. Her current pregnancy has been complicated by a Group B Streptococcus urine infection at 16 weeks. Her past obstetric history is significant for a primary, classic cesarean delivery 5 years ago for a non-reassuring fetal tracing. Two years ago, she had a repeat cesarean delivery. Past surgical history is significant for an appendectomy 10 years ago. Which of the following is the major contraindication to a vaginal birth after cesarean (VBAC) in this patient?

Select one:

- ☐ . Previous appendectomy
- ☐ . Two prior cesarean deliveries
- ☐ . Group B Streptococcus urine infection
- ☐ . Prior cesarean delivery for non-reassuring fetal tracing
- ☐ . Classic uterine scar

Check

The presence of a classic uterine scar is an absolute contraindication to a vaginal birth after cesarean (VBAC). A classic uterine scar is a vertical incision into the uterus that extends from the lower uterine segment up into the active myometrial portion toward the fundus of the uterus. Patients with a previous classic cesarean delivery have roughly a 10% risk of uterine rupture. Therefore, these patients should have an elective repeat cesarean delivery when the fetus is mature. Group B Streptococcus (GBS) urine infection (choice B) is not a contraindication to vaginal

delivery. Patients with GBS urine infection are allowed to have a vaginal delivery but must receive IV antibiotics during labor to prevent GBS invasive disease of the newborn. Previous appendectomy (choice C), or other intra-abdominal surgery, is not a contraindication to vaginal delivery. Prior cesarean delivery for non-reassuring fetal tracing (choice D) is not a contraindication to vaginal delivery. Patients with this indication for primary cesarean delivery have approximately a 70% rate of success with VBA C. Women with two prior cesarean deliveries (choice E) may undergo a trial of labor (VBAC). This is the case if the two prior cesarean deliveries were low-transverse hysterotomies. However, the patient should be cautioned that the risk of rupture does increase with the number of previous cesarean deliveries.

The correct answer is: . Classic uterine scar

**Question 101**

Not answered

Marked out of 1.00

A 22-year-old woman, gravida 2, para 1, at 39 weeks gestation is admitted to the hospital for delivery. She has had regular and painful uterine contractions occurring every 3 minutes for the past 10 hours. Her pregnancy has been uncomplicated. She had a normal vaginal delivery for her first pregnancy and required an episiotomy. A recent ultrasound at 37 weeks gestation showed a fetus in a cephalic presentation with an estimated fetal weight of 3,400 g (7.5 lb). Examination shows the cervix is soft, 50% effaced and 2 cm dilated. She is given epidural anesthesia per her request. Eight hours later, her cervix has not significantly changed, and uterine contractions are occurring every 5 minutes. Which of the following is the most likely cause of her current condition?

Select one:

- ☐ . False labor
- ☐ . Early anesthesia
- ☐ . Cervical dysfunction
- ☐ . Perineal scar
- ☐ . Cephalopelvic disproportion

This patient is experiencing a prolonged latent phase. The length of the latent phase is highly variable but is considered prolonged when it exceeds 20 hours in primiparous women and 14 hours in multiparous women. A prolonged latent phase can be caused by hypotonic uterine contractions, uncoordinated uterine contractions, fetopelvic disproportion, or premature or excessive use of anesthesia or sedation. Hypotonic contractions are less painful and are characterized by an easily indentable uterus during the contraction. Anesthesia may reduce uterine activity if administered in the latent phase as in the patient described. In the active phase, spinal anesthesia has no significant effect on the progression of labor. The only treatment for labor prolongation resulting from anesthesia or sedation is to allow the responsible drug to be eliminated; the uterus usually resumes its normal activity afterwards. Patients with hypocontractile dysfunction are best treated with a diluted infusion of oxytocin.

(Choice A) Cephalopelvic (fetopelvic) disproportion is unlikely because on the one hand the fetus has an average estimated weight, and on the other the pelvis has been tested by a prior delivery. An episiotomy is frequently required in normal primiparous women; the performance of an episiotomy with her previous delivery does not indicate cephalopelvic disproportion.

(Choice C) Cervical dysfunction is usually seen in patients who have had prior cervical surgery, so it is unlikely to be the cause of this patient's anomaly. The cervix in this case is soft, dilated and effaced - all of these signs indicate a cervix responding appropriately to early labor.

(Choice D) The fetus in this case is still high in the pelvis and would therefore not be in contact with an episiotomy scar. Moreover, an episiotomy scar is not likely to cause dystocia.

(Choice E) False labor is not accompanied by cervical changes. Contractions in false labor are sporadic, not painful and occur at long intervals.

Educational objective:

Both general and spinal anesthesia as well as sedation may reduce uterine activity if administered in the latent phase thus prolonging this stage of labor.

The correct answer is: . Early anesthesia

**Question 102**

Not answered

Marked out of 1.00

A 38-year-old woman at 39 weeks delivers a 7-lb infant female without complications. At 2 weeks of life, the infant develops fulminant liver failure and dies. What is the most likely causative virus?

Select one:

- ☐ . Parvovirus
- ☐ . Cytomegalovirus
- ☐ . Rubella
- ☐ . Herpes simplex
- ☐ . Hepatitis B

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Transplacental transfer of hepatitis B from the mother to fetus occurs with acute hepatitis, not chronic seropositivity. Acute infection in first trimester infects 10% of fetuses, and in third trimester 80% to 90% are affected. Perinatal transmission occurs by ingestion of infected material during delivery or exposure subsequent to birth in mothers who are chronic carriers. Some infected infants may be asymptomatic, and others develop fulminant hepatic disease. Administration of hepatitis B immune globulin after birth, followed by the vaccine, can prevent disease in infants born to mothers who are chronic carriers.

The correct answer is: . Hepatitis B

**Question 103**

Not answered

Marked out of 1.00

A 25-year-old woman, gravida 2, para 1, at 32 weeks gestation is brought to the emergency department because of acute onset severe uterine contractions and moderate vaginal bleeding. Her first pregnancy was uncomplicated. She has a history of cocaine addiction but she is now participating in a drug rehabilitation program. Ultrasonogram performed at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. Her temperature is 37.0 C (98.7F), blood pressure is 130/80 mmHg, pulse is 90/min and respirations are 15/min. Physical examination shows uterine tenderness, hyperactivity, and increased uterine tone. Fetal heart tracing shows 140/min with good long-term and beat-to-beat variability. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Uterine rupture
- ☐ . Placenta previa

- ☐ . Normal labor
- ☐ . Abruptio placenta
- ☐ . Vasa previa

Check

This patient has abruptio placenta. Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It is one of the most common causes of antepartum hemorrhage. The diagnosis is mainly clinical although the symptoms may vary. The most common clinical finding is dark red, third trimester vaginal bleeding, which is found in 80% of cases. This bleeding can be concealed in 20% of cases. A concealed hemorrhage may delay the diagnosis of placental abruption and expose the patient and the fetus to serious complications including coagulopathy, shock and death. Therefore, the physician should keep a high index of suspicion for this condition in patients in their third trimester presenting with uterine tenderness, hyperactivity, and increased uterine tone as these may be the only symptoms of abruption. Ultrasonography detects as few as 25% of all placental abruptions. The role of ultrasound in the evaluation of antepartum hemorrhage is primarily to rule out placenta previa and not to diagnose abruptio placenta. Risk factors for abruptio placenta are:

- . Maternal hypertension and pre-eclampsia
- Placental abruption in a previous pregnancy
- Trauma
- Rapid decompression of a hydramnios
- Short umbilical cord
- Tobacco use and cocaine abuse (as in the present case)
- Folate deficiency

(Choice B) Placenta previa presents with bright red, painless vaginal bleeding in the third trimester. 20% of cases of placenta previa may be associated clinically with uterine contractions, but the uterus is typically nontender in placenta previa.

(Choice C) Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the fetus and the internal cervical os. It presents with a painless antepartum/intrapartum hemorrhage associated with rapid deterioration of the fetal heart tracing.

(Choice D) Uterine rupture can be difficult to distinguish from abruptio placenta, especially when there is a history of cesarean section. However, the symptoms in uterine rupture are preceded by agitation, hyperventilation and tachycardia. Uterine rupture is rare and most often a problem during active labor, not during the antepartum period.

(Choice E) Normal labor presents with regular contractions associated with cervical changes, release of the mucous plug and a "bloody show" which is a small amount of blood-tinged mucus due to ruptured cervical veins.

Educational objective:

Painful third trimester vaginal bleeding with normal ultrasound is most likely due to placental abruption.

The correct answer is: . Abruptio placenta

### Question 104

Not answered

Marked out of 1.00

An 18-year-old woman arrives in your clinic with primary amenorrhea, sexual infantilism, and clitoromegaly. She has a history of ambiguous external genitalia noted at birth. Reviewing her records, you see that laparotomy performed at 17 months of age revealed normal internal female genitalia and ovarian biopsy performed at that time revealed normal-appearing primordial follicles. Laboratory studies today reveal a normal female karyotype and high serum testosterone and androstenedione concentrations. Estradiol and estrone are undetectable in the serum. Serum FSH and LH concentrations are high. Pelvic imaging shows multiple ovarian cysts. What is the most likely diagnosis?

Select one:

- ☐ . Aromatase deficiency
- ☐ . Kallmann's syndrome
- ☐ . Galactosemia
- ☐ . McCune-Albright syndrome
- ☐ . Congenital adrenal hyperplasia

Check

Aromatase deficiency is a rare genetic disorder marked by either total absence or poor functioning of the enzyme that converts androgens into estrogens. Its consequences are numerous. In utero the placenta will not be able to make estrogens, leading to masculinization of the mother that resolves after delivery. The high levels of gestational androgens result in a virilized XX child with normal internal genitalia but ambiguous external genitalia.

Clitoromegaly is often seen when excessive androgens are present in utero. Later in life patients will have delayed puberty, osteoporosis, undetectable circulating estrogens, high concentrations of gonadotropins and polycystic ovaries. This patient's history of normal internal genitalia with ambiguous external genitalia, clitoral hypertrophy, and high FSH/LH with low estrogen is consistent with aromatase deficiency.

(Choice A) Congenital adrenal hyperplasia (CAH) can cause pseudohermaphroditism in females with virilization, as well as salt wasting. 21-hydroxylase deficiency is the most common cause. In 21-hydroxylase deficiency, estrogen is still synthesized and internal genitalia are normal.

(Choice C) McCune-Albright syndrome is marked by the triad of café au lait spots, polyostotic fibrous dysplasia, and autonomous endocrine hyperfunction. The most common endocrine feature is gonadotropin-independent precocious puberty. Thus, patients have early puberty, in contrast to the ambiguous genitalia and delayed menarche in the patient described above.

(Choice D) Kallman's syndrome is hypogonadotropic hypogonadism with anosmia. Patients will have delayed puberty but, unlike this patient, have low or absent LH and FSH levels.

(Choice E) Galactosemia is due to deficiency of galactose-1-phosphate uridylyltransferase. It results in galactose-1-phosphate accumulation in the liver, brain, and kidney which leads to cirrhosis, mental retardation, and Fanconi's syndrome. It is not strongly associated with reproductive abnormalities.

Educational objective:

Congenital aromatase deficiency is a rare enzyme deficiency that prevents the conversion of androgens to estrogens. It causes gestational maternal virilization and virilization of XX fetuses. Thus, affected girls will have normal internal genitalia with ambiguous external genitalia.

The correct answer is: . Aromatase deficiency

### Question 105

Not answered

Marked out of 1.00

A 60-year-old woman comes to the physician for an annual examination. She has no complaints. She had her last menstrual period at age 55 and has had no vaginal bleeding since. She has no medical problems and has never had surgery. She takes no medications and has no allergies to medications. The physical examination is unremarkable. She is concerned about cancer and wants to know which type is the major cause of cancer death in women. Which of the following is the correct response?

Select one:

- ☐ . Endometrial cancer
- ☐ . Ovarian cancer



- ☐ . Breast cancer
- ☐ . Lung cancer
- ☐ . Cervical cancer

Check

Breast cancer accounts for the greatest number of new cancer cases in women each year. In 1997, there were 180,200 new breast cancer cases. However, lung cancer is the major cause of cancer death in women. In 1997, lung cancer accounted for 66,000 cancer deaths in women, compared with the 43,900 female deaths caused by breast cancer. There is currently no test used to screen for lung cancer. Smoking cessation is the most effective way to reduce mortality from lung cancer. As stated above, breast cancer (choice A) accounts for the most number of cancer cases in women each year in the U.S., but not the highest number of cancer deaths. Mammography is the screening method used to detect subclinical breast cancer-the stage at which breast cancer is least likely to have spread. Cervical cancer (choice B) is the gynecologic type that causes the fewest number of cancer deaths, partly because of the success of Pap test screening. Pap testing allows preinvasive lesions to be identified and treated, which prevents the progression to invasive disease. Endometrial cancer (choice C) is the most common gynecologic cancer in women older than 45. There is no proven screening test available for endometrial cancer. Ovarian cancer (choice E) is a major cause of cancer death in women. More women die of ovarian cancer than of cervical or endometrial cancer combined. There is no proven screening test available for ovarian cancer.

The correct answer is: . Lung cancer

### Question 106

Not answered

Marked out of 1.00

A 33-year-old, white woman, gravida 3, para 2, at 37 weeks' gestation comes to the emergency department because of painful uterine contractions and heavy vaginal bleeding that started after she used intranasal cocaine. The patient's prenatal course was significant because she conceived while on the oral contraceptive pill, she occasionally used cocaine and heroin during the pregnancy, and she was found to be positive for group B Streptococcus colonization at 35 weeks. Fetal monitoring is not reassuring. The patient undergoes cesarean section, at which the uterus has a bluish hue. On inspection, the placenta is noted to have an adherent, retroplacental clot on

50% of its surface. Which of the following is the most likely initiating factor for this patient's presentation?

Select one:

- ☐ White race
- ☐ Group B Streptococcus colonization
- ☐ Cocaine
- ☐ Oral contraceptive pill use
- ☐ Gestational age

Check

This patient has the classic presentation for placental abruption, which occurs when there is premature separation of a normally implanted placenta from its attachment to the uterus. The classic triad of presentation is third-trimester vaginal bleeding, painful uterine contractions or hypertonus, and fetal distress. Definitive diagnosis can be made when there is a retroplacental clot. The most common causes of abruption are maternal hypertension and trauma (e.g., motor vehicle accidents or domestic violence.) The relationship between cocaine use and abruption is well established. It is believed that the vasoconstrictive and hypertensive effects of cocaine lead to abruption.

In this case, the gestational age (choice B) is not the most likely initiating factor for the placental abruption, as 37 weeks is considered a term pregnancy. It is most likely that the cocaine use, rather than the gestational age, precipitated this course.

Group B Streptococcus colonization (choice C) is not known to be associated with placental abruption.

Oral contraceptive pill use (choice D) around the time of conception is a frequent concern for patients. It has never been proven to cause increased rates of anomalies and is not known to be associated with placental abruption.

White race (choice E) is not considered a risk factor for placental abruption. Rates of placental abruption are higher in African American women.

The correct answer is: Cocaine

**Question 107**

Not answered

Marked out of 1.00

After an appropriate diagnostic evaluation, a 59-year-old woman with postmenopausal bleeding had a total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH-BSO). The pathologic diagnosis is adenocarcinoma of the endometrium. An endometrial adenocarcinoma that is confined to the uterus and extends more than 50% through the myometrium is at which stage?

Select one:

- ☐ IC
- ☐ IIB
- ☐ IIIA
- ☐ IIA
- ☐ IVA

In general, gynecologic cancers confined to the organ of origin are stage I. Thus, this patient has a stage I cancer. In 1988, FIGO revised the staging of endometrial cancer from a clinical staging to surgical staging. Cancer limited to the endometrium is stage IA. Myometrial invasion less than 50% is stage IB, and myometrial invasion more than 50%, but not involving the serosa, is stage IC. (Hoskins et al., 2005, p. 829)

The correct answer is: IC

**Question 108**

Not answered

Marked out of 1.00

A 28-year-old woman and her husband present to her obstetrician. They have been married for 7 years and have been trying to become pregnant for the past 2 years. Prior to this the woman used an intrauterine device for contraception, which she had in place for 5 years. Both are healthy without any medical problems, and both deny a history of sexually transmitted diseases. The woman states that her menstrual cycles have always been regular (every 28 days, lasting for 5 days) since she was 14 years old. She also denies menorrhagia and dysmenorrhea. Which of the following is the most likely cause of this couple's infertility?

Select one:

- ☐ Pelvic inflammatory disease
- ☐ Premature ovarian failure
- ☐ Endometriosis

- ☐ Prior placement of an intrauterine device
- ☐ Low sperm concentration

Check

Infertility can be caused by male or female factors. One-third of cases are exclusively due to female factors, 20% are exclusively due to male factors, and another 20% are due to a combination of female and male factors. Given this wife's unremarkable past medical history, female factors are less likely to be the cause of the couple's infertility. She has no symptoms of endometriosis, no history of PID or STDs, and appears to have properly functioning ovaries. Of the choices listed, a male factor is the most likely cause of this couple's infertility. The most common male factors include low semen volume, low sperm concentration, decreased sperm motility, and atypical sperm morphology.

Answer A is incorrect. Endometriosis is a common cause of female infertility, as a result of the pelvic adhesions that form from the ectopic endometrial tissue. However, this patient has none of the classic symptoms, such as severe dysmenorrhea and chronic pelvic pain that result from the adhesions. Hence, endometriosis is unlikely to be the cause of this couple's infertility.

Answer C is incorrect. PID is caused by ascending infection of the female genital tract, and is commonly associated with *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. It is a common cause of female infertility secondary to tubal occlusion. However, this patient has neither a history of STDs nor symptoms such as lower abdominal pain, vaginal discharge, low back pain, fever, nausea, and vomiting. As a result, PID is an unlikely cause of this couple's infertility.

Answer D is incorrect. A patient with premature ovarian failure would present with early amenorrhea (usually in her 30s) and premature symptoms of menopause. Given the regularity of this woman's cycles, premature ovarian failure is unlikely.

Answer E is incorrect. Intrauterine devices are associated with an increased risk of STDs, but there is no indication of prior STDs in this woman. These devices are not associated with subsequent infertility in the absence of prior STD infection. This patient has no prior history of STDs or current symptoms, such as pelvic pain and abnormal vaginal discharge. STDs can lead to infertility as a result of tubal occlusion.

The correct answer is: Low sperm concentration

### Question 109

A 36-year-old woman, gravida 3, para 2, comes to the physician for a prenatal

Not answered

Marked out of 1.00

checkup. According to her last menstrual period and an ultrasonography performed at 16 weeks gestation, she is at 30 weeks gestation. She missed two antenatal appointments. She does not use tobacco, alcohol, or drugs. Examination shows a fundal height of 26 cm (9.8 in). Fetal heart tones are heard by Doppler. Repeat ultrasound shows a fetal biparietal diameter consistent with 30 weeks and an abdominal circumference below the 10th percentile. Which of the following could most likely be responsible for the observed fetal findings?

Select one:

- ☐ . Inaccurate dates
- ☐ . Hypertension
- ☐ . Fetal anomalies
- ☐ . Chromosomal abnormalities
- ☐ . Intrauterine infection

Etiology of intrauterine growth restriction	
Symmetric causes (Fetal factors)	Asymmetric causes (Maternal factors)
<ul style="list-style-type: none"><li>● Chromosomal abnormalities</li><li>● Congenital anomalies</li><li>● Congenital infections (TORCH)</li></ul>	<ul style="list-style-type: none"><li>● Maternal hypertension</li><li>● Preeclampsia</li><li>● Uterine anomalies</li><li>● Maternal antiphospholipid syndrome</li><li>● Collagen vascular disease</li><li>● Maternal cigarette smoking</li></ul>

Intrauterine growth restriction (IUGR) is defined as an estimated fetal weight  $\leq 10$ th percentile. It can be symmetric or asymmetric. In symmetric growth restriction, the insult to the fetus often begins before 28- weeks gestation, and growth of both the head and the body are similarly lagging behind dates. It is usually caused by fetal factors such as chromosomal abnormalities, congenital infections, and congenital anomalies. Asymmetric IUGR is the result of fetal adaptation to non-ideal maternal factors. It is caused by fetal redistribution of blood flow to vital organs, such as the brain, heart, and placenta at the expense of less vital organs, such as the abdominal viscera. Maternal factors such as hypertension, hypoxemia, cigarette smoking, vascular disease, and preeclampsia can lead to asymmetric IUGR. Asymmetric IUGR has a better prognosis than symmetric IUGR .

(Choice A) The fetus in this case has a normal biparietal diameter and a reduced abdominal circumference, which indicate asymmetric IUGR. Congenital anomalies and chromosomal abnormalities usually result in symmetric growth restriction.

(Choice B) An infection by TORCH organisms would have resulted in a symmetric growth restriction, as they usually affect the fetus during early part of pregnancy. Bacterial infections late in pregnancy have not been strongly correlated with IUGR.

(Choice D) Gross fetal anomalies are usually identifiable on ultrasound.

(Choice E) Ultrasonography performed in the first trimester as well as the date of the last menstrual period make the most accurate estimation of dates. It is unlikely that the dating in this case is unreliable enough to explain the discrepancies found on ultrasound.

Educational objective:

Asymmetric intrauterine growth restriction is a result of a late exposure to a maternal factor that does not allow optimal fetal growth. It is characterized by a normal or almost normal head size and a reduced abdominal circumference. Maternal factors such as hypertension, smoking, hypoxia, vascular disease, and preeclampsia are typical causes.

The correct answer is: . Hypertension

### Question 110

Not answered

Marked out of 1.00

A 15-year-old girl is being evaluated for primary amenorrhea. She has no other symptoms. She has not been sexually active. She has no other medical problems and does not take any medication. Her family history is unremarkable. On examination, you note fully developed breasts and absent axillary and pubic hair. External genitalia have a normal appearance, but the vagina is abnormally short and blind ended. Initial work-up reveals no uterus on ultrasound, a testosterone level of 400 ng/dl (Normal is 20-80 for a female), and a 46 XY karyotype. Which of the following events is most likely to have caused the absence of in utero development of the internal reproductive organs?

Select one:

- ☐ . Presence of mullerian inhibiting factor
- ☐ . Testosterone surge
- ☐ . Absence of mullerian inhibiting factor
- ☐ . Agenesis of Wolffian ducts
- ☐ . Agenesis of mullerian ducts

[Check](#)

Androgen insensitivity syndrome, sometimes called testicular feminization, is characterized by a defect or absence of androgen receptors resulting in androgen resistance of peripheral tissues. Consequently, patients have a female phenotype with a 46 XY genotype. There are still normal testes that are typically found in the abdomen or inguinal canal, and patients are prone to the development of inguinal hernias. The mullerian inhibiting factor (MIF) is produced by the testes and prohibits formation of the uterus, fallopian tubes, and upper portion of the vagina. The testosterone level is elevated for a female, but within the normal range for a male. Breasts develop because of peripheral conversion of testosterone to estrogen, whereas axillary and pubic hair does not develop since it is dependent on testosterone. Treatment involves testicular resection at puberty and creation of a neo vagina.

(Choice A) Absence of MIF secretion will result in development of normal female internal organs.

(Choice C) Wolffian ducts are the embryonic precursors of seminal vesicles, epididymis, ejaculatory ducts, and ductus deferens in males.

(Choice D) Patients with mullerian agenesis may present with primary amenorrhea and nondeveloped internal reproductive organs, but they have a normal XX karyotype with normal female levels of testosterone. Patients also have normal axillary and pubic hair development since they can respond appropriately to testosterone.

(Choice E) A testosterone surge at the appropriate time of gestation can cause virilization of the external genitalia in female fetuses, but this patient has an XY genotype and normal female external genitalia .

Educational objective:

Patients with androgen resistance present with amenorrhea, normally developed breasts, absent pubic and axillary hair, absent internal reproductive organs, and a 46 XY karyotype . Serum testosterone levels are in a range typical for males. The internal reproductive organs do not develop because the testes are still present and secrete mullerian inhibiting factor.

The correct answer is: . Presence of mullerian inhibiting factor

**Question 111**

Not answered

Marked out of 1.00

A 32-year-old woman comes to your office for re-evaluation of her birth control method. She wants her intrauterine device (IUD) removed because it is causing her pelvic pain. She wants to be placed on oral contraceptive pills (OCPs). She has had hypertension for the past five years controlled with hydrochlorothiazide and atenolol. She has a family history of diabetes mellitus and ovarian carcinoma. Her body mass index (BMI) is 34 kg/m<sup>2</sup>. Physical examination is unremarkable. If she starts taking oral contraceptive pills, which of the following statement is most correct?

Select one:

- ☐ . Her hypertension may worsen
- ☐ . She is at risk of endometrial cancer
- ☐ . She is at risk of ovarian cancer
- ☐ . She will develop benign breast disease
- ☐ . She will become diabetic

Oral contraceptive pills (OCPs) offer both risks and benefits. The risks associated with OCP use include venous thromboembolism, stroke, myocardial infarction, breast cancer, cervical cancer, ↑ triglycerides, hypertension (Choice B) and worsening of diabetes. The relative risk of developing hypertension in patients taking OCPs is 1.8. compared to non-users, and patients with pre-existing hypertension are likely to experience a mild increase in blood pressure. The mechanism of ↑ BP involves sodium and water retention. OCP use decreases the risk of endometrial cancer, ovarian cancer, pelvic inflammatory disease, and ectopic pregnancy.

(Choices A & E) OCP use decreases the risk of endometrial and ovarian cancer.

(Choice C) The incidence of benign breast disease decreased with OCP use.

(Choice D) OCPs have been shown to cause a mild increase in insulin resistance. However, OCPs have not been shown to precipitate diabetes in non-diabetic patients.

Educational objective:

OCPs offer both risks and benefits as outlined below. The risks and benefits should be weighed carefully for each individual patient.

The correct answer is: . Her hypertension may worsen



**Question 112**

Not answered

Marked out of 1.00

A 32-year-old female presents to the emergency department with abdominal pain and vaginal bleeding. Her last menstrual period was 8 weeks ago and her pregnancy test is positive. On examination she is tachycardic and hypotensive and her abdominal examination findings reveal peritoneal signs, a bedside abdominal ultrasound shows free fluid within the abdominal cavity. The decision is made to take the patient to the operating room for emergency exploratory laparotomy. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Ruptured ectopic pregnancy
- ☐ . Torsed ovarian corpus luteal cyst
- ☐ . Hydatidiform mole
- ☐ . Incomplete abortion
- ☐ . Missed abortion

(Katz, pp 153-154, 462-463.) The diagnosis is ectopic pregnancy. Molar pregnancy, incomplete abortion, and missed abortion can also be associated with abdominal pain and vaginal bleeding, but would not be associated with free fluid (blood) within the abdominal cavity. A torsed ovarian cyst would present with intermittent abdominal pain. The ultrasound would show a pelvic mass with no flow to the ovary, not free fluid.

The correct answer is: . Ruptured ectopic pregnancy

**Question 113**

Not answered

Marked out of 1.00

A 22-year-old, gravida 1, para 0, at 13 weeks gestation is brought to the emergency department because of vaginal discharge and lower abdominal discomfort. She has had no passage of tissue from her vagina. She does not use tobacco, alcohol or drugs. She has no history of trauma. Her temperature is 37.0C (98.7F), blood pressure is 128/80 mmHg, pulse is 76/min and respirations are 14/min. Physical examination shows a closed cervix, a slightly tender uterus with a size consistent with gestational age, free adnexa and scant bright red bleeding from the introitus. Ultrasonogram in the emergency department shows normal fetal heart motion. She is anxious and concerned about her baby. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Ectopic pregnancy
- ☐ . Inevitable abortion

- ☐ . Threatened abortion
- ☐ . Completed abortion
- ☐ . Incomplete abortion

Check

This patient has a threatened abortion. Threatened abortion is a term used to describe any hemorrhage occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted and the fetal heart is active on ultrasound. Twenty five percent of pregnancies have some extent of vaginal bleeding in the first trimester. In half of these cases, a spontaneous abortion will actually occur.

(Choice A) Incomplete abortion involves the evacuation of some fetal tissue while a remainder is retained in the uterine cavity. Clinical symptoms include vaginal discharge of blood and tissue-like material, abdominal cramps and cervical dilation. Retained products of conception can be visualized with transvaginal ultrasonography.

(Choice C) In complete abortion, the whole conceptus passes through the cervix. After this passage, the cervix closes and uterine contractions subside. Ultrasonography shows an empty uterus.

(Choice D) Inevitable abortion manifests with vaginal bleeding, lower abdominal cramps that may radiate to the back and perineum and a dilated cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion.

(Choice E) Ectopic pregnancy typically presents with acute onset abdominal pain and dark red vaginal bleeding in the first trimester. Physical exam reveals an adnexal mass, and ultrasonogram shows no gestational sac in the uterus.

Educational objective:

Threatened abortion is characterized by any hemorrhage occurring before the 20th week of gestation with a live fetus and a closed cervix.

The correct answer is: . Threatened abortion

### Question 114

Not answered

Marked out of 1.00

A 19-year-old primigravid woman at 39 weeks' gestation is in active labor, and her cervix is 4 cm dilated, 90% effaced. Her amniotic membranes have been ruptured for 4 hours. Contractions are strong at 2- to 3-minute intervals and of 60- to 70-second duration. For the past 30 minutes, repetitive variable decelerations of the fetal heart rate have occurred. They have lasted 60–90 seconds, and the fetal heart rate has dropped as low as 60 beat per minute

(BPM). You explain that there is a risk that the baby will become hypoxic and recommend a cesarean section. She refuses. Which of the following is the most appropriate course of action?

Select one:

- ☐ assign her care to another obstetrician
- ☐ obtain permission for the cesarean section from her mother
- ☐ counsel her carefully about the fetal risks but accede to her wishes
- ☐ perform a cesarean section as an emergency
- ☐ obtain a court order permitting a cesarean section

Check

In many states, a pregnant woman under the age of 21 years is considered an emancipated minor and is the only person who may make legal decisions pertaining to the pregnancy. Although an immediate cesarean section is indicated because of the severe fetal heart rate decelerations, to perform it without her permission violates the ethical principle of autonomy. This is a principle that states that human beings should have their wishes respected as autonomous persons if they are capable of self-determination. Obtaining a court order may fulfill the ethical principle of beneficence, a physician acting to do no harm and to help the patient. In this situation, the ethical (moral) decision is complicated by a conflict between beneficence and autonomy. However, proceeding with a cesarean section exposes the obstetrician to a legal charge of battery. Assigning her care to another physician is a standard and accepted solution when there is a moral conflict between patient and physician. However, this is not an acceptable option in an emergency situation. The obstetrician is at risk for abandonment. Although not a satisfying choice, the choice most ethically sound is to counsel her carefully, but eventually accede to her wishes. Placing her in the lateral position, giving her oxygen by mask, and providing adequate intravenous hydration should be instituted to minimize the risk of fetal hypoxia. (Scott et al., 2003, pp. 1037–1042)

The correct answer is: counsel her carefully about the fetal risks but accede to her wishes

**Question 115**

Not answered

Marked out of 1.00

A 49-year-old G4P4 presents to your office complaining of a 2-month history of leakage of urine every time she exercises. She has had to limit her physical activities because of the loss of urine. She has had burning with urination and some blood in her urine for the past few days. Which of the following is the best next step in the evaluation and management of this patient?

Select one:

- ☐ . Cystoscopy
- ☐ . Placement of a pessary
- ☐ . Office cystometrics
- ☐ . Urinalysis with urine culture
- ☐ . Physical examination

(Beckmann, pp 292-298.) In this patient with presumed urinary stress incontinence by history, the next step in the evaluation would be the performance of a physical examination to document a cystocele, urethrocele, or other evidence of pelvic relaxation. A urine culture, cystoscopy, and cystometrics may also be part of the workup for this patient's chief complaint, but the physical examination should be the very next step. Placement of a pessary is one of the treatments for a cystocele, once the diagnosis has been made.

The correct answer is: . Physical examination

**Question 116**

Not answered

Marked out of 1.00

A 19-year-old G0 woman presents to her family physician complaining of dysmenorrhea for the past year. She reports severe right-sided pain that coincides with days 1–5 of her menstrual cycle. Her menses occur regularly every 28 days, and she requires three to four pads per day for the first 2 days of her bleeding and one to two pads per day for the remainder. She has never had surgery. She is not sexually active and does not smoke. Her last menstrual period was 1 week ago. Her temperature is 36.7C (98.1F), blood pressure is 121/74 mmHg, heart rate is 80/min, and respiratory rate is 14/min. Physical examination reveals a thin, healthy-appearing young woman. Pelvic examination reveals a normal sized uterus and no cervical motion tenderness. Which of the following is the most likely diagnosis?

Select one:

- ☐ Polycystic ovarian syndrome

- ☐ Pelvic inflammatory disease
- ☐ Leiomyoma
- ☐ Ectopic pregnancy
- ☐ Endometriosis

Check

Endometriosis is characterized by the presence of endometrial glandular and stromal tissue outside of the uterine cavity or musculature. Although endometriosis can be asymptomatic, patients commonly experience chronic pelvic pain that is often more severe during menses, dysmenorrhea, dyspareunia, abnormal menstrual bleeding, and infertility. A definitive diagnosis is made by direct visualization of the ectopic endometrial tissue via laparoscopy or laparotomy, although patients are often treated empirically with oral contraceptive pills (OCPs) to avoid a surgical procedure.

Answer A is incorrect. An ectopic pregnancy is a pregnancy that has implanted at a site other than the endometrium of the uterine cavity. Pregnancy should always be considered in a woman of reproductive age complaining of pelvic pain or vaginal bleeding. This patient, however, is not sexually active and reports a last menstrual period of 1 week ago.

Answer C is incorrect. Leiomyomata are benign neoplasms of smooth muscle origin that commonly occur in the uterus, but can form in the broad ligament. They typically occur in middle-aged women and cause menorrhagia, often with resulting iron deficiency anemia, and infertility. They are generally not associated with pelvic pain or dysmenorrhea.

Answer D is incorrect. PID occurs as a result of an ascending infection of the female genital tract. It commonly occurs in young women and is caused by anaerobic and sexually transmitted microorganisms. Clinical features include fever, chills, unilateral pelvic pain, and cervical motion tenderness. This patient reports none of these symptoms.

Answer E is incorrect. Polycystic ovarian syndrome is a constellation of symptoms characterized by multiple ovarian cysts, amenorrhea and infertility secondary to anovulation, hirsutism, and obesity. While the ovarian cysts can often cause unilateral pelvic pain, this patient does not exhibit other classic signs of polycystic ovarian syndrome.

The correct answer is: Endometriosis

### Question 117

Not answered

A 20-year-old, G1PO, woman at 35 weeks gestation comes to the hospital because of regular uterine contractions and passage of clear fluid per vagina.

Marked out of 1.00

She has no other symptoms. Her pregnancy thus far has been uncomplicated. Her temperature is 38.2 C (100.7 F), blood pressure is 120/68 mmHg, pulse is 110/min and respirations are 17/min. Speculum examination shows a closed cervix and clear fluid pooling in the vaginal fornix. The pH of the fluid is 7.5. Fetal heart monitoring shows a rate of 165/min and uterine contractions occurring every 3-4 minutes. Initial laboratory studies show:  
Hemoglobin 10.2 g/L;  
Platelets 198,000/mm<sup>3</sup>;  
Leukocyte count 18,500/mm<sup>3</sup>;  
Neutrophils 86%;  
Lymphocytes 14%.  
Which of the following is the most likely diagnosis?

Select one:

- ☐ . Normal labor
- ☐ . Abruptio placenta
- ☐ . Trichomonas vaginitis
- ☐ . Intraamniotic infection
- ☐ . Urinary tract infection

The patient described has experienced spontaneous premature rupture of the membranes (PROM), which is defined as a rupture of the amniotic membranes before 37 weeks of gestation but with the onset of labor, as evidenced by her regular uterine contractions. Normal amniotic fluid pH is 7.0 to 7.5, while normal vaginal pH is 4.5 to 5.5, so the more neutral pH of the fluid described in this patient indicates it is of amniotic origin. One of the risks associated with PPRM is intraamniotic infection. Intraamniotic infection (chorioamnionitis) should be suspected in mothers presenting with prolonged or premature rupture of the membranes, fever and any one of the following findings: maternal tachycardia (> 1 DO/min), fetal tachycardia (> 160/min), maternal leukocytosis (> 15,000/mm<sup>3</sup>), uterine tenderness or foul-smelling amniotic fluid.

(Choice A) Abruptio placenta commonly presents with bleeding from the vagina; though, a subset of placental abruptions is concealed and does not cause clinical bleeding. Abdominal or back pain, uterine tenderness and abnormal uterine contractions are typical. Fetal distress due to poor placental perfusion may be evident.

(Choice C) A urinary tract infection may cause leukocytosis if the infection was ascending. Dysuria would likely be present and fetal tachycardia would not be expected.

(Choice D) Trichomonas vaginitis is not associated with obstetric complications other than a possible association with early labor.

(Choice E) Maternal leukocytosis ( $>15,000/\text{cmm}$ ) with fever and fetal tachycardia are not components of normal labor.

Educational objective:

Intraamniotic infection should be suspected in the setting of prolonged or premature rupture of the membranes when maternal fever, leukocytosis, uterine tenderness or tachycardia is detected. Fetal tachycardia is another feature of chorioamnionitis.

The correct answer is: . Intraamniotic infection

**Question 118**

Not answered

Marked out of 1.00

A 90-year-old G5P5 with multiple medical problems is brought into your gynecology clinic accompanied by her granddaughter. The patient has hypertension, chronic anemia, coronary artery disease, and osteoporosis. She is mentally alert and oriented and lives in an assisted living facility. She takes numerous medications, but is very functional at the current time. She is a widow and not sexually active. Her chief complaint is a sensation of heaviness and pressure in the vagina. She denies any significant urinary or bowel problems. On performance of a physical examination, you note that the cervix is just inside the level of the introitus. Based on the physical examination, which of the following is the most likely diagnosis?

Select one:

- ☐ . Third-degree uterine prolapse
- ☐ . Second-degree uterine prolapse
- ☐ . First-degree uterine prolapse
- ☐ . Complete procidentia
- ☐ . Normal examination

Check

(Beckmann, pp 289-292.) The degree or severity of pelvic relaxation is rated on a scale of 1 to 3, based on the descent of the organ or structure involved. First-degree prolapse involves descent limited to the upper two-thirds of the vagina. Second-degree prolapse is present when the structure is at the vaginal introitus. In cases of third-degree prolapse, the structure is outside the vagina. Total procidentia of the uterus is the same as a third-degree prolapse, which means that the uterus would be located outside the body.

The correct answer is: . Second-degree uterine prolapse

**Question 119**

Not answered

Marked out of 1.00

A seven-year-old girl is brought to the physician's office because of a sudden onset of growth spurt, pubic hair development, and breast enlargement. Her family history is not significant. She has no other medical problems. On examination, there is no hirsutism or acne. Her weight is 70th percentile and her height is 98th percentile. Examination showed a pelvic mass. Pelvic ultrasonogram showed a right ovarian mass. Initial evaluation showed elevated estrogen levels. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Sertoli-Leydig cell tumor



- ☐ . Mature teratoma
- ☐ . Dysgerminoma
- ☐ . Serous cystadenoma
- ☐ . Granulosa cell tumor

Check

Granulosa cell tumors are fairly common and represent 1 0% of all solid malignant ovarian tumors. They can occur at any age, but usually follow a bimodal age distribution. When occurring before puberty, precocious puberty is often the presenting feature. The clinical features depend upon the estrogenic activity of the tumor. The tumor produces excessive amounts of estrogen and causes isosexual precocious puberty. Individuals develop secondary sexual characteristics, hypertrophy of breasts and external genitalia, pubic hair growth , and hyperplasia of the uterus. Usually, removal of the tumor causes regression of all these symptoms. When this tumor occurs in postmenopausal women, it is manifested as postmenopausal bleeding, and the uterus shows myohyperplasia. Patients can develop estrogenic features such as hypertrophy of the breasts and absence of postmenopausal signs (i.e. absence of vaginal atrophy).

(Choice A) Dysgerminomas also arise in younger women or in children, with an average incidence at the age of 20. They are usually unilateral and occasionally undergo torsion. The tumor is neutral and does not secrete either male or female sex hormones.

(Choice B) Sertoli-Leydig cell tumors produce androgens and cause defeminization followed by masculinization. Women in the childbearing age may complain of an altered body contour, flattening of the breasts, and scanty, irregular menstruation, ultimately ending in amenorrhea. Patients may develop hirsutism, coarsening of features, and enlargement of the clitoris.

(Choice D) Mature teratomas are also called dermoid cysts. Mature teratomas are often benign and do not produce either estrogens or androgens.

(Choice E) Serous cystadenomas are the most common cystic ovarian neoplasms, accounting for about 30% of all ovarian tumors. About 25% of all these are malignant, and about half of the cases are bilateral. They usually do not produce estrogen or androgen. Ovarian mass and abdominal pain are the presenting features.

Educational Objective:

Granulosa cell tumors produce excessive amounts of estrogen, and can present with precocious puberty in younger children and postmenopausal bleeding in elderly patients. This has to be differentiated from heterosexual

precocious puberty or virilizing symptoms which are usually produced by excessive androgens.

The correct answer is: . Granulosa cell tumor

**Question 120**

Not answered

Marked out of 1.00

A 34-year-old woman comes to the physician for evaluation of vulvar lesions. Examination reveals multiple small teardrop shaped growths at the vestibule of the vulva. Application of trichloroacetic acid results incomplete resolution of the lesions. Which of the following is the most likely cause of her lesions?

Select one:

- ☐ . Carcinoma of vulva
- ☐ . Human papilloma virus
- ☐ . Secondary syphilis
- ☐ . Lichen planus
- ☐ . Lichen sclerosis

Check

The physical description of this woman's vulvar lesions and their resolution with the application of trichloroacetic acid is consistent with a diagnosis of genital warts. Genital warts (condyloma acuminata) is caused by human papilloma virus (HPV) infection. Female patients may present with internal and/or external vaginal lesions as well as anogenital lesions. Genital warts typically appear as clusters of pink or skincolored lesions with a smooth, teardrop appearance. Patients are most often asymptomatic, although pruritus, pain, and bleeding are all possible. Diagnosis can be made based solely on the characteristic appearance of the lesions, although application of acetic acid (condyloma acuminata lesions turn white) and/or biopsy may be used to support the diagnosis. Treatment of genital warts depends on the size of the lesions. Small lesions may be treated in the office with trichloroacetic acid or podophyllin. Larger lesions are often treated with excision or fulguration (electric current). Regardless of the method of treatment, rates of recurrence are high.

(Choice A) Do not confuse condyloma acuminata and condyloma lata. Condyloma lata is caused by secondary syphilis and is characterized by flat, velvety lesions. They respond to penicillin.

(Choice C) Vulvar cancer typically presents as a singular, fleshy lesion on the labia majora. Vulvar cancer is commonly seen in elderly individuals and will not resolve with application of trichloroacetic acid.

(Choice D) Lichen sclerosis presents as white, thin, and wrinkled skin over the labia. It typically affects postmenopausal females, and causes pruritus.

(Choice E) Vulvar lichen planus typically affects middle-aged women. Lesions may be hyperkeratotic, erosive or papulosquamous in appearance. Pruritus, soreness, and vaginal discharge are common.

Educational objective:

Genital warts are caused by the Human papilloma virus (HPV) and present as clusters of pink lesions on the genitalia. Small lesions can be treated in the office with trichloroacetic acid or podophyllin.

The correct answer is: . Human papilloma virus

### Question 121

Not answered

Marked out of 1.00

An 18-year-old woman presents with amenorrhea and is found to have normal secondary sex characteristics and normal-appearing external genitalia. Her first menstrual period was at age 13, and her cycle has been unremarkable until now. She states that her last menstrual period was 8 weeks prior to this visit. A urine test for hCG is positive. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Intrauterine pregnancy
- ☐ . Ectopic pregnancy
- ☐ . Stein-Leventhal syndrome
- ☐ . Weight loss syndrome
- ☐ . Turner syndrome

Check

(Kumar, pp 1052-1053. Noble, pp 350-359.) Secondary amenorrhea refers to absent menses for 3 months in a woman who had previously had menses. Causes of secondary amenorrhea include pregnancy (the most common cause), hypothalamic/pituitary abnormalities, ovarian disorders, and end organ (uterine) disease. Pregnancy can be diagnosed by obtaining a clinical history along with a pregnancy test that determines serum or urine  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) levels. Placental human chorionic gonadotropin (hCG), secreted by syncytiotrophoblasts, functions early in pregnancy to stimulate the corpus luteum to continue secreting progesterone until the mature placenta, working together with the mother and the fetus, can produce progesterone. Levels of hCG reach a peak at approximately 8 to 10 weeks of development and then rapidly decline.

The remainder of the disorders causing secondary amenorrhea can be differentiated by examining gonadotropin (FSH and LH) levels along with the results of a progesterone challenge test. Withdrawal bleeding following progesterone administration indicates that the endometrial mucosa had been primed with estrogen, which in turn indicates that the hypothalamus/pituitary axis and ovaries are normal. Hypothalamic/pituitary disorders, which are characterized by decreased FSH and LH levels, include functional gonadotropin deficiencies, such as can be seen in patients with a weight loss syndrome. In these patients, markedly decreased body weight (>15% below ideal weight) causes decreased secretion of GnRH from the hypothalamus. Decreased gonadotropin levels decrease estrogen levels, which results in amenorrhea and an increased risk for osteoporosis. Because of the decreased estrogen levels, a progesterone challenge does not result in withdrawal bleeding. Ovarian conditions, such as surgical removal of the ovaries, would most likely produce elevated gonadotropin levels due to the lack of negative feedback from estrogen and progesterone. Because of the decreased estrogen levels, a progesterone challenge would not result in withdrawal bleeding. Uterine (end organ) disorders are characterized by normal FSH and LH levels. An example is Asherman syndrome, in which numerous and overly aggressive dilatation and curettage of the endometrium for menorrhagia removes the stratum basalis and no glandular epithelium remains. A patient with Asherman syndrome would have no response to progesterone.

The correct answer is: . Intrauterine pregnancy

**Question 122**

Not answered

Marked out of 1.00

A 26-year-old Caucasian female calls your office with a question about **levothyroxine dosage during pregnancy**. She is contemplating her first pregnancy very soon. You have been following her for primary hypothyroidism for several years. Her thyroid functions have been stable on a daily levothyroxine dose of 100µg. Her TSH level three months ago was 2.0 µU/ml (0.35 - 5.0 µU/ml is normal). What would be the most appropriate answer to this patient's question?

Select one:

- ☐ . She is most likely to decrease her levothyroxine dose during pregnancy
- ☐ . Levothyroxine is contraindicated in pregnancy and she has to switch to liothyronine (T3)
- ☐ . She is most likely to increase her levothyroxine dose during pregnancy
- ☐ . Her levothyroxine dose will not change after she becomes pregnant
- ☐ . Ask her to increase her levothyroxine dose before becoming pregnant

[Check](#)

It is essential to adequately treat hypothyroidism during pregnancy. Studies have shown that children of patients with inadequately treated hypothyroidism have a lower IQ. In most hypothyroid patients who become pregnant, the levothyroxine dose is increased. An increased requirement occurs mostly during the first trimester. Total T3 and T4 are elevated in pregnancy because of an increase in thyroid binding globulin levels. TSH levels are checked more frequently during pregnancy, usually every two to three months.

(Choice A) The patient's current TSH level is normal. There is no need to increase the levothyroxine dosage before pregnancy.

(Choice C) In about 10-20% of patients, the dose of levothyroxine during pregnancy does not change. Although this is a possibility for the patient, it is still not the most likely to happen.

(Choice D) The patient's levothyroxine dose is most likely to increase during pregnancy.

(Choice E) T3 is not warranted in the treatment of most cases of hypothyroidism.

Educational Objective:

Levothyroxine dose is increased during pregnancy in the majority of patients with hypothyroidism.

The correct answer is: . She is most likely to increase her levothyroxine dose during pregnancy

**Question 123**

Not answered

Marked out of 1.00

A 26-year-old woman comes to the physician's office for evaluation of a vulvar ulcer that she noticed two days ago. Initially she had a small painless papule that later became ulcerated. Upon further questioning she reluctantly admits to using sex to obtain drugs. She also reports using oral contraceptives to prevent pregnancy. On vulvar examination there is a 2-cm ulcer with a non-exudative base and a raised, indurated margin. Painless bilateral inguinal lymphadenopathy is present. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Herpes genitalis
- ☐ . Chancroid
- ☐ . Basal cell carcinoma

☐ . Granuloma inguinale

☐ . Syphilis

Check

This patient's high risk sexual behavior and physical exam findings raise strong suspicion for primary syphilis. Two to three weeks after infection with *Treponema pallidum*, patients develop a painless papule at the site of inoculation. This papule ulcerates, forming a chancre with punched-out base and raised, indurated margins. Most lesions occur on the genitalia, and are accompanied by painless inguinal adenopathy. If left untreated, the chancre of primary syphilis heals spontaneously within one to three months.

(Choices B & C) The genital ulcers seen in chancroid and herpes genitalis differ from the ulcer of primary syphilis in that both are painful. Chancroid is also characterized by a ulcer with a deep, purulent base and painful lymphadenopathy. Genital herpes presents with multiple vesicles following a prodrome of burning and pruritus. Within days, these vesicles become painful ulcers.

(Choice D) Like syphilis, Granuloma inguinale (Donovanosis) presents with painless genital ulcers. These ulcers have a red, beefy base and there is no associated adenopathy. Unlike primary syphilis, the ulcer of granuloma inguinale does not resolve without antibiotic treatment.

(Choice E) The greatest risk factor for basal cell carcinoma (BCC) is sun exposure. The most common sites of BCC are the face and trunk. Involvement of the genitalia is rare. BCC lesions appear as pearly-colored papules covered with telangiectasias.

Educational objective:

The genital ulcers seen in chancroid and herpes genitalis differ from the ulcer of primary syphilis in that both are painful.

The correct answer is: . Syphilis

**Question 124**

Not answered

Marked out of 1.00

Starting over 9 months ago, a 39-year-old multiparous woman complains about having increasing heavy vaginal bleeding and pain with her menstrual periods. Two years ago, after workup for an abnormal Pap smear reported a low-grade squamous intraepithelial lesion (LSIL), she underwent cryotherapy for biopsy-confirmed cervical intraepithelial neoplasia grade I (CIN 1). Subsequent follow-up Pap smears have been negative. Her present pelvic examination is unremarkable except for a diffusely enlarged, globular, soft, tender uterus. Results of a qualitative urine -human chorionic gonadotropin (-hCG) test are negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ Ovarian carcinoma
- ☐ Simple hyperplasia without atypia
- ☐ Uterine adenomyosis
- ☐ Cervical carcinoma
- ☐ Sarcoma botryoides

The key to identifying the most likely cause of the increasing vaginal bleeding in this case is its linkage to increasing pain with menses. Pain with menses is known as dysmenorrhea, and this scenario describes secondary dysmenorrhea. Secondary dysmenorrhea is caused by anatomic abnormalities such as endometriosis, chronic pelvic inflammatory disease, leiomyomas, or adenomyosis. The finding of a diffusely enlarged, globular, soft, tender uterus is classic for adenomyosis (choice I). Ordering a  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) test is critical to rule out pregnancy, the most common cause of an enlarged uterus in the reproductive years. The history of treatment for cervical dysplasia is only an incidental historical finding.

The correct answer is: Uterine adenomyosis

**Question 125**

Not answered

Marked out of 1.00

A 16-year-old female presents to the ER complaining of left lower quadrant abdominal pain that started suddenly 24 hours ago. The pain does not radiate and is 5/ 10 in severity. She denies having fevers, vomiting, dysuria, diarrhea or vaginal bleeding. Her last menstrual period was two weeks ago. She takes no medications. On physical examination, her temperature is 37.20C (98.9.F), blood pressure is 110/65 mmHg, pulse is 80/min and respirations are 14/min. There is mild left lower quadrant tenderness without rebound or rigidity, and the remainder of the examination is unremarkable. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Leiomyoma
- ☐ . Ectopic pregnancy
- ☐ . Midcycle pain
- ☐ . Acute appendicitis
- ☐ . Pelvic inflammatory disease

Check

Midcycle pain (mittelschmerz) is common in women with regular menstrual periods who are not taking birth control pills (i.e. women who are ovulating). This pain is the result of ovulation itself, and as such tends to occur about two weeks after the start of the last menstrual period. Midcycle pain often lateralizes to the ovary that produced a mature ovum, so it can be unilateral. The timing of these symptoms with regards to the menstrual cycle and the absence of other worrisome physical examination findings including fever help narrow the differential diagnosis.

(Choice A) The patient's last menstrual period was 2 weeks ago, so an ectopic pregnancy as the cause of her abdominal pain is unlikely.

(Choice B) In rare instances leiomyomas can cause acute pain, for example when there are complications like torsion or red degeneration. Low grade fever, uterine tenderness and leukocytosis are typically also present. A leiomyoma would be unlikely in this age group.

(Choice D) Appendicitis causes right lower quadrant abdominal pain.

(Choice E) Pelvic inflammatory disease often causes bilateral pain, fever and uterine or adnexal tenderness.

(Choice F) Ovarian torsion is a medical emergency. Patients present with sudden-onset lower quadrant abdominal pain that radiates to the groin or back and is accompanied by nausea and vomiting. An adnexal mass is usually present.

(Choice G) Ovarian hyperstimulation syndrome is an iatrogenic complication of ovulation-inducing drugs. It is characterized by abdominal pain due to ovarian enlargement and may be accompanied by ascites, respiratory difficulty and other systemic findings.

Educational objective:

Abdominal pain in a young female in the middle of her cycle with a benign history and clinical examination is most likely mittelschmerz (midcycle pain).

The correct answer is: . Midcycle pain



**Question 126**

Not answered

Marked out of 1.00

A 26-year-old black gravida 2, para 1, at 32 weeks' gestation presents to the physician for a prenatal visit. Her prenatal course has been remarkable for hyperemesis gravidarum in the first trimester. She also had a urine culture in the first trimester that grew out Group B Streptococcus. She has had type 1 diabetes for the past 2 years and has had good control of her blood glucose levels during this pregnancy. Her first pregnancy resulted in a low transverse cesarean section for dystocia. Other than insulin, she takes no medicines and has no known drug allergies. After a routine prenatal visit, the physician sends her to the antepartum fetal testing unit to undergo a non-stress test (NST). Which of the following characteristics makes this patient a good candidate for antepartum fetal testing with an NST?

Select one:

- ☐ Hyperemesis gravidarum
- ☐ Group B Streptococcus urine culture
- ☐ History of cesarean section
- ☐ Black race
- ☐ Diabetes mellitus

This patient has the findings consistent with HELLP syndrome. HELLP stands for hemolysis, elevated liver enzymes, and low platelets, and is related to preeclampsia. A patient with HELLP typically presents with complaints of abdominal pain and nausea and vomiting, as well as a history of malaise or flu-like symptoms. The patients are usually afebrile and often have normal vital signs. Although HELLP is related to preeclampsia, hypertension and proteinuria may be absent or minimal. Examination usually reveals right upper quadrant or epigastric tenderness. Laboratory values show evidence of hemolysis (e.g., abnormal peripheral blood smear, elevated lactate dehydrogenase, and increased bilirubin), elevated liver enzymes (e.g., elevated AST and ALT), and low platelets ( $<100,000/\text{mm}^3$ ). The treatment is essentially the same as for severe preeclampsia. Decreased fibrin split products (choice A) would not be consistent with HELLP syndrome. Up to 40% of patients with HELLP syndrome will develop disseminated intravascular coagulation (DIC). In DIC, fibrin split products are elevated.

Decreased lactate dehydrogenase (choice B) would also not be consistent with HELLP syndrome. As noted above, lactate dehydrogenase rises as hemolysis takes place and the liver is damaged.

Elevated fibrinogen (choice D) would also not usually be seen in HELLP syndrome. In the up to 40% of patients with HELLP who develop DIC, the fibrinogen level would be decreased.

Elevated glucose (choice E) would not usually be seen in HELLP syndrome.

The correct answer is: Diabetes mellitus

**Question 127**

Not answered

Marked out of 1.00

A 50-year-old woman complains of leakage of urine. After genuine stress urinary incontinence, which of the following is the most common cause of urinary leakage?

Select one:

- ☐ . Overflow incontinence
- ☐ . Unstable urethra
- ☐ . Urethral diverticulum
- ☐ . Unstable bladder
- ☐ . Detrusor dyssynergia

Check

(Scott, pp 768-770.) Stress incontinence is the involuntary loss of urine when intravesical pressure exceeds the maximum urethral pressure in the absence of detrusor activity. The most common cause of urinary incontinence is incompetence of the urethral sphincter, termed genuine stress incontinence. The other major cause of incontinence is unstable bladder. An unstable bladder is the occurrence of involuntary, uninhibited detrusor contractions of greater than 15 cm H<sub>2</sub>O with simultaneous urethral relaxation. Up to approximately 60% of patients presenting with incontinence may have unstable bladder. Other causes of urinary incontinence are less common and include overflow secondary to urinary retention, congenital abnormalities, infections, fistulas, detrusor dyssynergia, and urethral diverticula. Detrusor dyssynergia implies that when the patient has an uninhibited detrusor contraction, there is simultaneous contraction of the urethral or periurethral striated muscle (normally there is urethral relaxation with a detrusor contraction). This is generally seen in patients with neurologic lesions. Urethral diverticula classically present with dribbling incontinence after voiding.

The correct answer is: . Unstable bladder

**Question 128**

Not answered

Marked out of 1.00

A 37-year-old woman presents for evaluation of infertility. She and her 39-year-old husband have not been able to conceive after 9 months of unprotected and frequent intercourse. She had one pregnancy with her husband when she was 31. She has 28-day regular menstrual cycles and enjoys frequent sexual intercourse. She has no other complaints. She denies any previous history of sexually transmitted diseases or abdominal surgery. She does not use tobacco, alcohol or drugs. She has been working as an aerobic teacher and teaches two 30 minute classes every day. Her blood pressure is 130/80 mmHg and her pulse is 84/min. Her BMI is 23 Kg/m<sup>2</sup>. Complete physical examination is unremarkable. Which of the following is most likely cause of her condition?

Select one:

- ☐ . Intense exercise
- ☐ . Oocyte aging
- ☐ . Hypothyroidism
- ☐ . Adrenal hyperplasia
- ☐ . Premature ovarian failure

The patient described does not meet the strict definition of infertility as she has not been attempting to become pregnant for more than one year. Given this fact and the fact that the patient is still experiencing regular menstrual cycles, this patient is most likely having trouble conceiving because of her age. An inverse relationship exists between increasing age and decreasing fertility. Women are born with their full complement of oocytes, and as they age, this oocyte reserve slowly depletes. At birth, a woman possesses approximately 3 million oocytes, but by puberty this number is typically decreased to about 300,000. A significant drop in oocyte number (ovulatory reserve) takes place during a woman's fourth decade. One in five women aged between 35 and 39 is no longer fertile. Infertility due to aging can be assessed using an early follicular phase FSH level, a clomiphene challenge test or an inhibin-B level.

(Choice A) Intense exercise sufficient to induce anovulation would also most likely result in amenorrhea. Patients at the greatest risk of exercise-induced infertility are long-distance runners. 30 - 60 minutes of daily aerobic exercise is considered normal and desirable.

(Choices B & D) Endocrine disorders such as hypothyroidism and adrenal hyperplasia can be associated with anovulation.

(Choice C) Premature ovarian failure refers to ovarian failure before the age of 40. Premature ovarian failure causes amenorrhea and can be caused by autoimmune conditions, heritable factors, exogenous factors such as radiation exposure and as an idiopathic condition.

(Choices F & G) Fallopian tube obstruction and uterine leiomyomas are anatomic factors that may decrease fertility. This patient's history of a previous normal pregnancy coupled with the absence of sexually transmitted diseases makes either of these factors unlikely. A uterine leiomyoma may be present, but she has no symptoms or signs of this condition.

Educational objective:

The most common cause for decreased fertility in women in their fourth decade who are still experiencing menstrual cycles is age-related decreased ovarian reserve.

The correct answer is: . Oocyte aging

**Question 129**

Not answered

Marked out of 1.00

A 39-year-old woman presents with severe menorrhagia and colicky dysmenorrhea. A hysterectomy including resection of the fallopian tubes and ovaries is performed. Examination by the pathologist finds a right adnexal cyst measuring approximately 2.3 cm in diameter and filled with clotted blood. Microscopic examination reveals the presence in the wall of the cyst of endometrial glands, stroma, and hemosiderin pigment. What is the best diagnosis?

Select one:

- ☐ . Hydatid cyst
- ☐ . Hydatidiform mole
- ☐ . Adenomyosis
- ☐ . Endometriosis
- ☐ . Luteal cyst

Check

(Kumar, pp 1028-1029. Rubin, pp 803-804, 815-816.) Ectopic endometrial tissue outside of the uterus is called endometriosis and histologically reveals endometrial glands, stroma, and hemosiderin pigment (from the cyclic bleeding). This repeated bleeding can lead to the formation of cysts that contain areas of new and old hemorrhages. Because they grossly contain blood clots, these cysts have been called "chocolate cysts." Endometriosis is thought to possibly arise from metaplasia of celomic epithelium into

endometrial tissue, or implantation of normal fragments of menstrual endometrium either via the fallopian tubes or via the blood vessels. Other sites of endometriosis include the uterine ligaments (associated with dyspareunia), the rectovaginal pouch (associated with pain on defecation and low back pain), the fallopian tubes (associated with peritubular adhesions, infertility, and ectopic pregnancies), the urinary bladder (associated with hematuria), the GI tract (associated with pain, adhesions, bleeding, and obstruction), and the vagina (associated with bleeding).

Endometrial tissue located in abnormal locations is still under the cyclic influence of hormones and may produce menorrhagia, dysmenorrhea, and cyclic pelvic pain. The ectopic endometrial tissue may be located within the myometrium or it may be found outside of the uterus. The former type, consisting of nests of endometrial stroma within the myometrium, is called adenomyosis. It is thought to result from the abnormal down growth of the endometrium into the myometrium. Symptoms produced by adenomyosis include menorrhagia, colicky dysmenorrhea, dyspareunia, and pelvic pain.

The correct answer is: . Endometriosis

**Question 130**

Not answered

Marked out of 1.00

A 35-year-old African-American marathon runner presents to the gynecologist complaining of secondary amenorrhea that developed three months ago. Her cycles are normally 28 days long, and her menses last three to five days with moderate flow. One year ago, the woman adopted a vigorous exercise regimen that lasted between three and five hours every day. Since then, her BMI has declined from 23.4 to 16.5. She has been winning many local races and is considering increasing the difficulty of her exercise regimen, but would like to address the issue of her amenorrhea first. Physical examination reveals a thin woman with well-defined musculature but is otherwise unremarkable. Pregnancy test is negative. What is the most likely etiology of her amenorrhea?

Select one:

- ☐ . Prolactin excess
- ☐ . Estrogen deficiency
- ☐ . Kwashiorkor
- ☐ . Progesterone deficiency
- ☐ . Testosterone deficiency

Check

Amenorrhea is thought to occur in female athletes when there is a relative caloric deficiency secondary to inadequate nutritional intake as compared to the amount of energy expended. Women athletes with this condition have been shown to have decreased levels of luteinizing hormone (LH) and gonadotropin-releasing hormone (GnRH), resulting in an estrogen deficiency. These amenorrheic women are therefore at increased risk for all conditions associated with estrogen deficiency, including infertility, vaginal atrophy, breast atrophy, and osteopenia.

(Choice A) Kwashiorkor is a malnutrition disease caused by severe protein deficiency. This condition primarily occurs in children upon weaning from the breast, and is not the cause of amenorrhea in this woman.

(Choice B) Testosterone deficiency occurs in disorders such as Klinefelter's syndrome and cryptorchidism. It is not the cause of amenorrhea in this woman.

(Choice D) Progesterone is an important hormone in the middle to late luteal phase of the menstrual cycle and also serves in the maintenance of pregnancy. A deficiency in this hormone is not the cause of amenorrhea in this woman.

(Choice E) High serum levels of prolactin can occur in pregnant or breastfeeding women or as the result of a prolactinoma. It is an extremely unlikely cause of amenorrhea in this woman.

Educational Objective:

Secondary amenorrhea is relatively common in elite female athletes and results from estrogen deficiency.

The correct answer is: . Estrogen deficiency

### Question 131

Not answered

Marked out of 1.00

A 53-year-old obese, menopausal woman comes to the physician for a routine annual examination. Her last menstrual period was one year ago. Upon further questioning, she says that she sometimes experiences hot flashes of mild intensity. She is sexually active and denies vaginal dryness or dyspareunia. Her medical problems include mild hypertension managed with hydrochlorothiazide and a salt-reduced diet. Her obstetrical history is significant for an elective termination of pregnancy at 35 years of age because of an abnormal maternal serum alpha-fetoprotein. Physical examination is normal. Which of the following is a possible cause of the comparatively milder nature of the symptoms the patient is having compared to many other menopausal women with more severe symptoms?

Select one:

- ☐ . Increased levels of FSH
- ☐ . Conversion of adrenal androgens to estrogens by the liver

- ☐ . Compensatory adrenal production of estrogens
- ☐ . Peripheral adipose tissue production of estrogens
- ☐ . Conversion of adrenal androgens to estrogens by adipose tissue

Check

During childbearing years, estrogens are mainly formed through the conversion of androgens by the enzyme aromatase, which is primarily present in granulosa cells of the ovary. Peripheral fat tissue also contains the enzyme aromatase to a lesser degree. After menopause, aromatase activity in the ovaries ceases and the only remaining tissue with aromatase activity is the peripheral fat. Patients who are obese have more peripheral fat; and therefore, will have more estrogen formation. This increased estrogen formation may help to alleviate many of the typical menopausal symptoms, such as vaginal dryness or dyspareunia. It may also be making her hot flashes milder in intensity as well.

(Choice A) Estrogen is not truly produced in the peripheral fat. Only the final step of the pathway involving aromatase conversion of an androgen to an estrogen takes place in the peripheral fat.

(Choice B) While androgens are produced in the adrenal gland, there is no aromatase enzyme present to convert the androgen to an estrogen.

(Choice D) There is no aromatase present in the liver to convert androgens to estrogen.

(Choice E) Increased levels of FSH are a response to the decrease in estrogen levels (via feedback to the pituitary gland) and do not have any effect on menopausal symptoms.

Educational objective:

The major source of estrogen in menopausal women is from the peripheral conversion of adrenal androgens by the aromatase enzyme present in adipose tissue. This process is increased in obese women and may result in milder menopausal symptoms.

The correct answer is: . Conversion of adrenal androgens to estrogens by adipose tissue

### Question 132

Not answered

Marked out of 1.00

A 27-year-old primigravid woman at 30 weeks' gestation comes to the emergency department complaining of abdominal pain, nausea, and vomiting. Earlier in the day she began to experience severe epigastric and later right upper quadrant pain. Until now her pregnancy has been uneventful and she has had regular prenatal care. Her past medical history and review of

symptoms are unremarkable. On examination she is a pregnant woman in moderate distress, lying still on the hospital bed. Vital signs are: temperature 38.9 C (102.0 F), blood pressure 105/68 mm Hg, and pulse 108/min. Her abdomen is extremely tender to palpation in the right upper quadrant with guarding. There is no vaginal bleeding or discharge. Laboratory studies show: Hematocrit: 36%, Leukocytes: 15,000/mm<sup>3</sup> (88% neutrophils), Platelets: 158,000/mm<sup>3</sup>. Liver function tests, including transaminases, are normal. Prothrombin time is within normal limits. Urinalysis is unremarkable except for a few red blood cells on microscopy. X-ray is deferred out of concern for the fetus. Which of the following is the most likely cause of this patient's symptoms?

Select one:

- ☐ . Luminal obstruction of the appendix from lymphoid hyperplasia or fecalith
- ☐ . Premature separation of a normally implanted placenta
- ☐ . Intrahepatic cholestasis of pregnancy
- ☐ . Pregnancy outside the uterine endometrium
- ☐ . Acute fatty infiltration of the liver

Check

Appendectomy is the most common emergent surgical intervention in pregnant women. Because of displacement of the appendix by the gravid uterus, the pain of appendicitis often is located in the right upper quadrant, rather than the right lower quadrant. Obstruction of the lumen is the dominant causal factor in acute appendicitis. Causes of obstruction include fecaliths, lymphoid hyperplasia, inspissated barium from previous x-ray studies, vegetable and fruit seeds, and intestinal worms, particularly ascarids.

Acute fatty liver of pregnancy (choice A) is a severe condition that presents in the third trimester with malaise, headache, nausea, and abdominal pain and, if untreated, progresses to hepatic failure. Laboratory studies show a variable degree of transaminitis and prolonged prothrombin time, together with evidence of disseminated intravascular coagulation, such as thrombocytopenia. Intrahepatic cholestasis of pregnancy (choice B) does not present with acute pain, but rather intense pruritus from impaired bile formation. Serum bile acid levels are usually elevated.

Ectopic pregnancy, or pregnancy outside the uterine endometrium (choice D), may cause severe abdominal pain. An ectopic pregnancy, however, does not develop to 30 weeks' gestation.



Placental abruption is the premature separation of a normally implanted placenta (choice E) and often (though not always) presents with vaginal bleeding. Abdominal examination reveals a firm, tender uterus, rather than right upper quadrant tenderness. Depending on the degree of bleeding, the patient may be in shock.

The correct answer is: . Luminal obstruction of the appendix from lymphoid hyperplasia or fecalith

**Question 133**

Not answered

Marked out of 1.00

A 23-year-old female comes to the physician because of a swelling in her vagina. She states that the swelling started about 3 days ago and has been growing larger since. The swelling is not painful, but it is uncomfortable when she jogs. She has asthma for which she uses an albuterol inhaler, but no other medical problems. Examination shows a cystic mass 4 cm in diameter near the hymen by the patient's left labia minora. The mass is nontender and there is no associated erythema. The mass is freely mobile. The rest of the pelvic examination is unremarkable. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Bartholin's cyst
- ☐ . Granuloma inguinale
- ☐ . Hematocolpos
- ☐ . Vulvar cancer
- ☐ . Condyloma lata

This patient has a presentation and findings that are most consistent with a Bartholin's cyst. Bartholin's cysts develop when a Bartholin's gland becomes obstructed. The Bartholin's glands are bilateral structures that are present near the posterior fourchette of the vagina at the 5 and 7 o'clock positions. They secrete mucus, particularly during sexual stimulation, which drains into the posterior vagina. They undergo rapid growth during the process of puberty and they shrink after the menopause. When the duct of the Bartholin's gland becomes obstructed, a Bartholin's cyst results. If the cyst becomes infected, the result is a Bartholin's abscess. These abscesses are usually polymicrobial in nature, although the gonococcus is implicated in about 25% of cases. Treatment of a

symptomatic Bartholin's cyst is with placement of a Word catheter. This is a small balloon-tipped catheter device that is placed into a small hole that is punched into the cyst itself. This catheter allows drainage of the cyst and the formation of an epithelialized tract that will allow continued drainage once the catheter is removed. This tract should prevent the cyst from reforming. If Bartholin's cysts continue to form in spite of the use of the Word catheter, a marsupialization procedure may be tried. In this procedure, the cyst walls are sutured open to the surrounding skin to prevent re-closure and re-formation of the cyst. Condyloma lata (choice B) is a manifestation of secondary syphilis. They appear as coalesced, large, pale, flat-topped papules and not as a cystic mass. Granuloma inguinale (choice C) is also known as Donovanosis and is a sexually transmitted disease associated with the gram-negative bacillus *Calymmatobacterium granulomatis*. The disease is characterized by papules progressing to ulcers and not by a vulvar cyst. Hematocolpos (choice D) describes the condition in which there is blood filling the vagina. This is often seen with an imperforate hymen. Vulvar cancer (choice E) does not usually present as a single cystic mass at the introitus and, in young women, is far less common than Bartholin's cysts

The correct answer is: . Bartholin's cyst

**Question 134**

Not answered

Marked out of 1.00

A 24-year-old gravida 2, para 1, African American woman at 12 weeks gestation comes for her first prenatal visit. Except for early morning mild headaches and nausea she has no other symptoms. Physical examination shows mild bilateral ankle edema. Blood pressure is measured twice 15 minutes apart and is 150/96 mmHg on both occasions. Blood is drawn for laboratory tests and the patient is sent home with a follow-up appointment 3 days later. She returns 3 days later and repeat blood pressure is the same.

Laboratory studies show:

Urinalysis:

Protein: negative;

Blood: negative;

Glucose: negative;

Ketones: negative;

Leukocyte esterase: negative;

Nitrites: negative;

WBC: 1-2/hpf;

RBC: 1-2/hpf.

Chemistry panel:

Serum sodium: 150 mEq/L;

Serum potassium: 2.5 mEq/L;  
Chloride: 100 mEq/L;  
Bicarbonate: 23 mEq/L;  
Blood urea nitrogen (BUN): 14 mg/dL;  
Serum creatinine: 0.8 mg/dL.  
Ultrasonogram reveals intrauterine gestation consistent with dates; no abnormalities noted. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Molar pregnancy
- ☐ . Normal pregnancy
- ☐ . Chronic hypertension
- ☐ . Preeclampsia
- ☐ . Transient hypertension of pregnancy

Check

The increase in blood pressure in this case appeared before 20-weeks gestation and thus represents either chronic hypertension that was present before pregnancy or a hydatiform mole. Ultrasound demonstrated a normal gestational sac, so a molar pregnancy can be safely ruled out. The work-up revealed hypernatremia and hypokalemia, which indicates hyperaldosteronism. Patients with chronic hypertension should be carefully followed; if proteinuria or a significant increase in BP is noted as the pregnancy progresses, chronic hypertension with superimposed preeclampsia is diagnosed.

(Choice A) This patient is hypertensive but does not have non-dependent edema or proteinuria, so the diagnosis of preeclampsia cannot be made. Also the HTN appeared before 20 weeks gestation.

(Choice C) Molar pregnancy can cause hypertension. Hydatidiform mole has a classic "snow storm" appearance on ultrasound.

(Choice D) Transient or late hypertension refers to hypertension that appears in the second half of pregnancy or during labor and delivery and is not accompanied by proteinuria (<300mg/24hr). Preeclampsia is diagnosed if the proteinuria exceeds 300mg/24hr.

(Choice E) SBP of more than 140 mmHg and DBP of more than 90 mmHg is considered abnormal.

Educational objective:

An increase in blood pressure that appears before 20-weeks gestation is due to either chronic hypertension or a hydatidiform mole.

The correct answer is: . Chronic hypertension

**Question 135**

Not answered

Marked out of 1.00

A 69-year-old woman with diabetes mellitus complains of urinary incontinence. Her diabetes is well controlled with oral hypoglycemic agents. She has no complaints other than the wetness. Which of the following tests is most likely to demonstrate the cause?

Select one:

- ☐ intravesical instillation of methylene blue
- ☐ measurement of residual urine volume
- ☐ the Q-tip test
- ☐ urine culture and sensitivity
- ☐ urinalysis

The combination of aging and diabetes suggests the likelihood of a neurologic defect in the bladder, resulting in overflow incontinence. This occurs when the detrusor muscle becomes hypotonic or atonic. Such women complain of voiding small amounts but still having the feeling of a full bladder. In addition, these women are incontinent of small amounts of urine and are unable to stop the flow. This helps to distinguish those with overflow incontinence from those with GSI; the latter are able to voluntarily increase urethral pressure enough to stop urine flow. Cystitis commonly causes urgency and increased urinary frequency, but not incontinence. Urinalysis and urine culture are not likely to be revealing in this patient, but should be done routinely in all incontinent women. Instillation of methylene blue into the bladder after placement of a vaginal tampon should be done when a vesicovaginal fistula is suspected. This occurs most often following gynecologic surgery and should be suspected in women complaining of constant urine leakage. The Q-tip test is useful to demonstrate posterior urethral rotation found in women with GSI. (Scott et al., 2003, pp. 849–856)

The correct answer is: measurement of residual urine volume

**Question 136**

Not answered

Marked out of 1.00

A 28-year-old, G2 P1 woman presented to the hospital at 34weeks gestation because of midepigastlic and right upper quadrant pain associated with nausea and vomiting. She has been closely followed for mild hypertension and mild proteinuria (250 mg/24hr) on an outpatient basis since the 28th week of gestation. Her previous pregnancy was without incident. Her temperature is

37.2 C (98.9 F), blood pressure is 160/94 mmHg and pulse is 80/min. Physical examination shows epigastric and right upper quadrant tenderness; her bowel sounds are slightly reduced. The extremities have 2+ edema. Fetal heart sounds are audible on Doppler. Laboratory studies show:

Hb: 8.2g/dl,

Platelets: 96,000/mm<sup>3</sup>,

Prothrombin time: 12.4 sec,

Partial thromboplastin time: 23.6 sec,

Serum creatinine: 1.1 mg/dl,

Total bilirubin: 2.6 mg/dl,

Direct bilirubin: 0.8 mg/dl,

Alkaline phosphatase: 120 U/L,

Aspartate aminotransferase: 308 U/L,

Alanine aminotransferase: 265 U/L,

Lipase: 53 U/L.

Peripheral blood smear shows numerous red blood cell fragments. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Idiopathic thrombocytopenic purpura
- ☐ . Hemolytic uremic syndrome
- ☐ . HELLP syndrome
- ☐ . Viral hepatitis
- ☐ . Acute fatty liver of pregnancy

Check

The work up reveals a thrombocytopenia, microangiopathic hemolytic anemia (MAHA) as evidenced by the increase in indirect bilirubin level and the presence of red blood cell fragments on blood smear and elevated liver enzymes. These findings along with evidence of preeclampsia are indicative of the HELLP syndrome (Hemolysis, Elevated Liver enzymes, Low Platelet count). Right upper quadrant pain is typical of this condition due to distention of the hepatic (Glisson's) capsule.

(Choice B) Acute fatty liver of pregnancy (AFLP) also causes acute hepatic failure in the third trimester or in the early post partum period. Most patients will have a prolonged PT and PTI and moderate elevation of the transaminase levels.

(Choice C) Hemolytic uremic syndrome (HUS) also causes thrombocytopenia and hemolytic anemia. As in HELLP syndrome, both PT and PTI are normal; however, HUS also usually results in renal failure and not necessarily

associated with preeclampsia.

(Choice D) Acute viral hepatitis typically causes elevations of the transaminase levels into the thousands. Clinically, patients exhibit constitutional symptoms, nausea, vomiting, clay-colored stools, dark urine and clinical jaundice.

(Choice E) Idiopathic (immune) thrombocytopenic purpura is characterized by autoimmune destruction of platelets. Patients manifest with bleeding from the skin and gums; hypersplenism and the many other features described in the question stem are not characteristic.

(Choice F) Acute cholecystitis presents with acute right upper quadrant abdominal pain, fever and nausea I vomiting.

Educational objective:

The combination of thrombocytopenia, microangiopathic hemolytic anemia and increased liver enzymes in a patient with preeclampsia is defined as HELLP syndrome.

The correct answer is: . HELLP syndrome

### Question 137

Not answered

Marked out of 1.00

At a follow-up routine prenatal visit, the uterine fundus of a healthy 23-year-old pregnant woman is palpated halfway between her symphysis pubis and umbilicus. Which of the following is the most appropriate test to order at this stage of her pregnancy?

Select one:

- ☐ cervical culture for group B Streptococcus (GBS)
- ☐ amniocentesis
- ☐ maternal serum alpha-fetoprotein (MSAFP)
- ☐ glucose tolerance test
- ☐ serum human immunodeficiency virus (HIV) titer

Check

The fundal height corresponds to 16 gestational weeks. Between 15 and 20 weeks, screening for open neural tube defects should be offered. In addition to MSAFP, the American College of Obstetricians and Gynecologists recommends hCG and unconjugated estriol to screen for Down syndrome and trisomy 18 as well. This triad of tests is called a triple screen or triple marker screen. Reported sensitivity of the triple screen is between 57 and 67% and the false positive rate is 5%. An abnormal result must be evaluated

further by ultrasonography to identify the presence or absence of open neural tube defects or abdominal wall defects (increased MSAFP) or trisomy disorder (decreased MSAFP and unconjugated estriol, increased hCG). In skilled hands, an ultrasound reduces the risk of such an anomaly by 95%. If the diagnosis is still uncertain, the woman should be offered amniocentesis for measurement of alpha-fetoprotein (AFP) and acetylcholinesterase activity (increased in neural tube defects) and karyotype of fetal skin cells. Although testing for HIV can be done any time, it is most appropriate at the first prenatal visit, because earlier onset of prophylaxis with acquired immune deficiency syndrome (AIDS) drugs reduces the risk of transmission to the fetus significantly. Routine culture for GBS is not recommended because of the high recurrence rate after treatment and the low attack rate to the fetus. Amniocentesis is not a screening procedure and is reserved for those women with a specific indication, such as elevated MSAFP, low MSAFP (risk of Down syndrome), advanced maternal age, and others. A glucose tolerance test may be appropriate if there is a clinical indication for diabetes mellitus: previous macrosomic infant or stillbirth, strong family history of diabetes mellitus, persistent glycosuria, previous gestational diabetes, or elevated random serum glucose concentration. (Creasy et al., 2004, pp. 237–239; Cunningham et al., 2005, pp. 207–213)

The correct answer is: maternal serum alpha-fetoprotein (MSAFP)

**Question 138**

Not answered

Marked out of 1.00

A 65-year-old woman comes to the physician because of bleeding from the vagina. She states that her last menstrual period was at age 50 and that she has had no bleeding since. She has no medical problems and takes no medications. She is not sexually active. Examination is unremarkable, including a normal pelvic examination. After informed consent is obtained, an endometrial biopsy is performed. The patient complains of discomfort during and after the procedure but feels well enough to go home. Later that night, with her abdominal pain worsening, the patient comes to the emergency department. An ultrasound is performed that shows a normal uterus and adnexae but a complex fluid collection posterior to the uterus. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Uterine perforation
- ☐ . Endometritis
- ☐ . Endometrial cancer
- ☐ . Tubo-ovarian abscess
- ☐ . Bowel perforation



[Check](#)

This patient presents with postmenopausal bleeding. The majority of patients who have postmenopausal bleeding will not have endometrial hyperplasia or cancer. However, because postmenopausal bleeding is the most common presenting complaint of women with endometrial cancer, it is important to rule this out. A common way to evaluate the endometrium is with an endometrial biopsy. This can be performed with a small suction cannula that is introduced through the cervical os and into the uterine cavity to get a sample of the endometrium. The procedure is standard in the practice of gynecology but is not without risks. One of the risks of endometrial biopsy is uterine perforation (i.e. advancing the cannula too far such that it penetrates and perforates through the wall of the uterus). This patient has evidence of uterine perforation. First, she experienced significant pain during the procedure and continuing afterwards. While endometrial biopsy can cause considerable discomfort, it is usually of a crampy nature that should resolve shortly after the procedure. Second, her pelvic ultrasound now shows a complex fluid collection posterior to the uterus, which likely represents a collection of blood in the posterior cul-de-sac. If the patient has stable vital signs and an acceptable hematocrit, uterine perforation can be managed expectantly. If, however, the patient has evidence of hemodynamically significant bleeding, then she will require operative intervention. Bowel perforation (choice A) is a very unlikely complication with an endometrial biopsy. It's rare for the cannula to be advanced far enough to damage the uterus (uterine perforation), let alone damage the bowel. Endometritis (choice B) can be a complication of an endometrial biopsy. Patients undergoing endometrial biopsy should be counseled that infection is one of the risks of the procedure. However, this patient is afebrile and the pelvic fluid collection is more suggestive of a perforation than an endometritis. While it is possible that this patient has endometrial cancer (choice C), it is not likely that endometrial cancer is causing her acute problem. Again, most women with postmenopausal bleeding do not have endometrial cancer. And, this patient's sudden onset of pain and pelvic fluid collection after endometrial biopsy is most suggestive of endometrial cancer. A patient with a tuboovarian abscess (choice D) usually presents with abdominal pain and



fevers, and ultrasound will reveal a pelvic mass. In a non-sexually active patient with no adnexal mass, tuboovarian abscess can be effectively ruled out.

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The correct answer is: . Uterine perforation

**Question 139**

Not answered

Marked out of 1.00

A 48-year-old woman presents with a 1.5-cm firm mass in the upper outer quadrant of her left breast. A biopsy from this mass reveals many of the ducts to be filled with atypical cells. In the center of these ducts there is extensive necrosis. No invasion into the surrounding fibrous tissue is seen. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Lobular carcinoma in situ
- ☐ . Infiltrating lobular carcinoma
- ☐ . Infiltrating ductal carcinoma
- ☐ . Comedocarcinoma
- ☐ . Colloid carcinoma

(Kumar, pp 1080-1083. Rubin, pp 848-849 .) Malignant carcinomas of the breast may be either noninvasive or invasive. Noninvasive carcinomas (carcinoma in situ) may be located within the ducts (intraductal carcinoma) or within the lobules (lobular carcinoma in situ). There are several variants of intraductal carcinoma, including comedocarcinoma, cribriform carcinoma, and intraductal papillary carcinoma. Comedocarcinoma grows as a solid intraductal sheet of cells with a central area of necrosis. It is frequently associated with the erb B2/neu oncogene and a poor prognosis. Cribriform carcinoma is characterized by round, ductlike structures within the solid intraductal sheet of epithelial cells, while intraductal papillary carcinoma has a predominant papillary pattern. In contrast, invasive malignancies are characterized by infiltration of the stroma, which may produce a desmoplastic response within the stroma (scirrhous carcinoma). Infiltrating ductal carcinomas also produce yellow-white chalky streaks that result from the deposition of elastic tissue around ducts (elastosis). Other patterns of invasion that produce specific results include infiltration of cells in a single file in infiltrating lobular carcinoma and mucin production in colloid carcinoma.

The correct answer is: . Comedocarcinoma

**Question 140**

Not answered

Marked out of 1.00

For the past 6 months, a 32-year-old multiparous woman has complained about intermittent vaginal bleeding between normal menstrual periods. The bleeding is painless and is not associated with cramping. She denies postcoital bleeding. Her last Pap smear, 6 months ago, was negative for dysplasia or malignancy. She underwent a tubal sterilization after her last pregnancy 3 years ago. Pelvic examination reveals normal external genitalia and vulva. Her vagina and cervix are without lesions. Her uterus is asymmetrically enlarged, about 8-week size, and nontender. Results of a qualitative urine –human chorionic gonadotropin (-hCG) test are negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ Endometrial carcinoma
- ☐ Submucous leiomyoma
- ☐ Ectopic pregnancy
- ☐ Molar pregnancy
- ☐ Vaginal foreign body

Intermittent vaginal bleeding between normal menses is suggestive of an anatomic lesion. The absence of postcoital bleeding makes it unlikely that the bleeding is caused by invasive cervical carcinoma. The normal pelvic examination rules out a lower genital tract lesion such as vulvar neoplasms, vaginal varicosities, or cervical polyps. Upper tract causes of vaginal bleeding include endometrial polyps or submucosal leiomyomas. The presence of an asymmetrically enlarged, firm, nontender uterus is suggestive of subserosal or intramural uterine myomas. The presence of bleeding suggests the likelihood of a submucosal leiomyoma (choice D) as the cause.

The correct answer is: Submucous leiomyoma

**Question 141**

Not answered

Marked out of 1.00

A 25-year-old woman comes to the physician because of pain and burning with urination. She states that the symptoms started two days ago and have worsened since. She has no fever or chills and has never had these symptoms before. She has hypothyroidism for which she takes thyroid hormone replacement. Otherwise she has no medical problems. Her temperature is 37 C (98.6 F). Examination is unremarkable including a normal pelvic examination. A KOH and normal saline "wet prep" is performed on her vaginal discharge and is negative. Urinalysis reveals numerous white blood cells. Which of the following is the most likely pathogen?

Select one:

- ☐ . Staphylococcus saprophyticus
- ☐ . Escherichia coli
- ☐ . Trichomonas vaginalis
- ☐ . Pseudomonas species
- ☐ . Neisseria gonorrhoeae

Check

This patient has findings that are most consistent with a lower urinary tract infection. A lower urinary tract infection refers to infection of the bladder (cystitis) or urethra (urethritis). The principal complaints for women with lower urinary tract infections are dysuria, urgency, and frequency. Most often examination will be unremarkable. Occasionally, suprapubic tenderness may be present. A urinalysis will often reveal a positive leukocyte esterase or nitrite test. The microscopic analysis will show white blood cells. The most significant risk factors are related to sexual activity and hypoestrogenism. These factors lead to invasion by pathogenic organisms.

E. coli is by far the most common causative organism in cases of acute uncomplicated cystitis. It is responsible for approximately 80% of these cases. N. gonorrhoeae(choice B) is often associated with cervicitis and pelvic inflammatory disease. Yet, it can also cause urethritis. However, N. gonorrhoeae is a far less frequent cause of acute uncomplicated cystitis than

E. coli. Pseudomonas species (choice C) can cause urinary tract infections. It is often seen in patients with metabolic or anatomic abnormalities. In a routine case of UTI, however, it is not the most common pathogen. Staphylococcus saprophyticus(choice D) is a somewhat common cause of acute, uncomplicated UTIs. It accounts for approximately 10% of cases. Trichomonas vaginalis(choice E) is an organism that is most often associated with vaginitis, but can also cause a urethritis. This patient, however, has a negative normal saline "wet prep." Patients with trichomoniasis usually have visible organisms on the "wet prep." Also, while Trichomonas vaginalis can cause urethritis, it is not nearly as common a cause as is E. coli.

The correct answer is: . Escherichia coli

**Question 142**

Not answered

Marked out of 1.00

A 25-year-old woman presents with lower abdominal pain, fever, and a vaginal discharge. Pelvic examination reveals bilateral adnexal (ovarian) tenderness and pain when the cervix is manipulated. Cultures taken from the vaginal discharge grow *Neisseria gonorrhoeae*. Which of the following is the most likely cause of this patient's adnexal pain?

Select one:

- ☐ . Adenomatoid tumor
- ☐ . Endometriosis
- ☐ . Luteoma of pregnancy
- ☐ . Ectopic pregnancy
- ☐ . Pelvic inflammatory disease

(Kumar, pp 1065-1066. Rubin, pp 782, 784, 786, 814-815.) Pelvic inflammatory disease (PID) is a common disorder caused by infection with either gonococci (the most common cause), chlamydiae, or enteric bacteria. Gonococcal infection, seen microscopically as gram-negative intracellular diplococci, begins in the Bartholin glands and then spreads upward to involve the fallopian tubes and tuboovarian regions. This produces PID, which is characterized by pelvic pain, fever, adnexal tenderness, and pain when the cervix is manipulated. Complications of PID include peritonitis from rupture of a tuboovarian abscess, infertility, and intestinal obstruction.

The correct answer is: . Luteoma of pregnancy

**Question 143**

Not answered

Marked out of 1.00

A 29-year-old woman experienced her last menses 9 weeks ago. On her first prenatal visit, she is noted to have a 9–10 cm soft, smooth, symmetrical, midline pelvic mass. The mass is mobile and not tender to palpation. She has experienced morning nausea but no vomiting. Which of the following is the most likely diagnosis?

Select one:

- ☐ Tubo-ovarian abscess
- ☐ Paraovarian cyst of Morgagni
- ☐ Hydrosalpinx
- ☐ Pregnancy
- ☐ Chronic pelvic inflammatory disease (PID)

Check

The case scenario describes a normal intrauterine pregnancy (choice E). This is the most common cause of an enlarged pelvic mass in the reproductive years. Confirmation by sonogram is appropriate. A pelvic mass in the reproductive years is always an indication for a  $\beta$ -hCG test.

The correct answer is: Pregnancy

**Question 144**

Not answered

Marked out of 1.00

A 22-year-old G1 at 34 weeks is tested for tuberculosis because her father, with whom she lives, was recently diagnosed with tuberculosis. Her skin test is positive and her chest x-ray reveals a granuloma in the upper left lobe. Which of the following is true concerning infants born to mothers with active tuberculosis?

Select one:

- ☐ . Bacille Calmette-Guérin (BCG) vaccination of the newborn infant without evidence of active disease is not appropriate.
- ☐ . The risk of active disease during the first year of life may approach 90% without prophylaxis.
- ☐ . Neonatal infection is most likely acquired by aspiration of infected amniotic fluid.
- ☐ . Future ability for tuberculin skin testing is lost after BCG administration to the newborn.
- ☐ . Congenital infection is common despite therapy

Check

(Cunningham, pp 1064-1066.) The goal of management in the infant born to a mother with active tuberculosis is prevention of early neonatal infection. Congenital infection, acquired either by a hematogenous route or by aspiration of infected amniotic fluid, is rare. Most neonatal infections are acquired by postpartum maternal contact. The risk of active disease during the first year of life may approach 50% if prophylaxis is not instituted. BCG vaccination and daily isonicotinic acid hydrazide (isoniazid, INH) therapy are both acceptable means of therapy. BCG vaccination may be easier because it requires only one injection; however, the ability to perform future tuberculin skin testing is lost.

The correct answer is: . Future ability for tuberculin skin testing is lost after BCG administration to the newborn.

**Question 145**

Not answered

Marked out of 1.00

A 3-year-old girl who has been experiencing vaginal bleeding is brought for evaluation by her worried mother. The girl's medical history is unremarkable, with normal physical growth and appropriate developmental landmarks. She has had all the recommended immunizations. On visual examination of the perineum, bleeding and multiple cystic masses resembling grapes are seen at the introitus. Which of the following is the most likely diagnosis?

Select one:

- ☐ Ovarian carcinoma
- ☐ Uterine adenomyosis
- ☐ Cervical carcinoma
- ☐ Simple hyperplasia without atypia
- ☐ Sarcoma botryoides

Check

The most common cause of vaginal bleeding in a prepubertal girl is a vaginal foreign body. However, a cystic grapelike mass at the introitus suggests a more worrisome cause. Sarcoma botryoides (choice H) (also known as, rhabdomyosarcoma of the vagina) is a malignancy in infants and young children that arises from embryonal rhabdomyoblasts (ancestral muscle cells). The tumor resembles a bunch of grapes. It has a generally good prognosis with conservative surgery followed by chemotherapy. It is a rare malignant tumor of the female reproductive tract, most commonly seen in girls younger than 8 years of age. The most common symptom is abnormal vaginal bleeding.

The correct answer is: Sarcoma botryoides

**Question 146**

Not answered

Marked out of 1.00

A 30-year-old G0 woman with a past medical history of dysmenorrhea presents to an infertility clinic with her husband for a follow-up visit. The couple has been trying to get pregnant for the past 3 years with no success. Their infertility work-up thus far has included a semen analysis, hysterosalpingogram, and estrogen, progesterone, and follicle-stimulating hormone blood levels, all of which were normal. Currently the woman feels well; her only complaint is frustration regarding her inability to conceive. A pelvic ultrasound done last week demonstrated a 3-cm well-circumscribed mass on the patient's left ovary. Her last menstrual period was 3 weeks ago. The ovarian mass most likely represents which of the following?

Select one:



- ☐ Tubo-ovarian abscess
- ☐ Leiomyoma
- ☐ Ectopic pregnancy
- ☐ Corpus luteum cyst
- ☐ Endometrioma

Check

The patient's infertility and dysmenorrhea are most likely secondary to endometriosis, and the pelvic mass is most likely an endometrioma, or "chocolate cyst." Patients with endometriosis often experience chronic pelvic pain that is more severe during menses, dysmenorrhea, dyspareunia, abnormal menstrual bleeding, and infertility. The optimal method of diagnosis is direct visualization via laparoscopy or laparotomy, following initial imaging with ultrasound. On ultrasound, an endometrioma appears as a complex mass, with varying areas of hypodense and hyperdense lesions.

Answer A is incorrect. A corpus luteum cyst is a functional ovarian cyst that occurs after an egg has been released from a follicle. Usually the follicle (now the corpus luteum) breaks down if no pregnancy occurs, but it can become filled with blood or fluid, remaining in the ovary. This patient's adnexal mass is unlikely to be a corpus luteum cyst, as the ultrasound was performed at week two of her menstrual cycle, around the time of ovulation. Corpus luteum cysts tend to appear toward the end of the menstrual cycle.

Answer B is incorrect. This patient does not describe typical symptoms of ectopic pregnancy, namely unilateral pelvic pain, vaginal spotting, and amenorrhea. She also does not report risk factors for ectopic pregnancy, such as a history of STDs, prior pelvic surgery, or previous ectopic pregnancy.

Answer D is incorrect. Leiomyomata are benign neoplasms of smooth muscle origin that commonly occur in the uterus, but can also form in the broad ligament. They generally occur in women 30–40 years old and are a common cause of infertility. They tend not to cause pelvic pain or dysmenorrhea. While this patient could have a leiomyoma, given her history, her symptoms are more likely due to endometriosis.

Answer E is incorrect. A tubo-ovarian abscess is part of the spectrum of PID and occurs as a result of an ascending infection of the female genital tract. The most likely causes of tubo-ovarian abscess are anaerobic and sexually transmitted microorganisms. Clinical features include fever, chills, unilateral pelvic pain, and cervical motion tenderness. This patient reports none of these symptoms.

The correct answer is: Endometrioma

**Question 147**

Not answered

Marked out of 1.00

A 39-year-old G1P0 at 39 weeks gestational age is sent to labor and delivery from her obstetrician's office because of a blood pressure reading of 150/100 mm Hg obtained during a routine OB visit. Her baseline blood pressures during the pregnancy were 100 to 120/60 to 70. On arrival to labor and delivery, the patient denies any headache, visual changes, nausea, vomiting, or abdominal pain. The heart rate strip is reactive and the tocodynamometer indicates irregular uterine contractions. The patient's cervix is 3 cm dilated. Her repeat blood pressure is 160/90 mm Hg. Hematocrit is 34.0, platelets are 160,000, SGOT is 22, SGPT is 15, and urinalysis is negative for protein. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Chronic hypertension
- ☐ . Gestational hypertension
- ☐ . Chronic hypertension with superimposed preeclampsia
- ☐ . Eclampsia
- ☐ . Preeclampsia

Check

(Cunningham, pp 761-765.) Hypertension in pregnancy is defined as blood pressure of 140/90 mm Hg or greater on at least two separate occasions that are 6 hours or more apart. The presence of edema is no longer used as a diagnostic criteria because it is so prevalent in normal pregnant women. A rise in systolic blood pressure of 30 mm Hg and a rise in diastolic blood pressure of 15 mm Hg is no longer used, because women meeting this criteria are not likely to suffer adverse pregnancy outcomes if their absolute blood pressure is below 140/90 mm Hg. In gestational hypertension, maternal blood pressure reaches 140/90 mm Hg or greater for the first time during pregnancy, and proteinuria is not present. In preeclampsia, blood pressure increases to 140/90 mm Hg after 20 weeks gestation and proteinuria is present (300 mg in 24 hour or 1+ protein or greater on dipstick). Eclampsia is present when women with preeclampsia develop seizures. Chronic hypertension exists when a woman has a blood pressure of 140/90 mm Hg or greater prior to the pregnancy or before 20 weeks gestation. A woman with hypertension who develops preeclampsia is described as having chronic hypertension with superimposed preeclampsia.

The correct answer is: . Gestational hypertension

**Question 148**

A 27-year-old primigravid woman at 10 weeks gestation is brought to the

Not answered

Marked out of 1.00

emergency department because of vaginal bleeding and cramping lower abdominal pain. She continues to have cramping in the ER. Her temperature is 37.0 C (98.7 F), blood pressure is 100/76 mmHg, pulse is 84/min and respirations are 14/min. Physical examination shows an effaced and dilated cervix. Gestational tissue is visualized through the internal cervical os. Bimanual examination shows the uterus is soft and enlarged, and vaginal bleeding is seen. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Threatened abortion
- ☐ . Missed abortion
- ☐ . Molar pregnancy
- ☐ . Complete abortion
- ☐ . Inevitable abortion

Check

This patient described is having a spontaneous abortion. Specifically, she is having an inevitable abortion, which is characterized clinically by vaginal bleeding and fluid discharge, lower abdominal cramps and a dilated cervix through which the products of conception can occasionally be visualized. The fluid lost is amniotic fluid draining from the ruptured amniotic membrane. Ultrasonography demonstrates a ruptured or collapsed gestational sac and absence of fetal cardiac motion .

(Choice B) Threatened abortion refers to any hemorrhage occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted. The fetal heart is active on ultrasound.

(Choice C) Molar pregnancy is characterized by first trimester vaginal hemorrhage associated with expulsion of vesicles (villi), excessive nausea and vomiting and uterine size greater than dates. Ultrasonography shows a "snow storm" appearance with no fetal heart rate or identifiable fetal structures, and beta-hCG levels are increased.

(Choice D) A complete abortion manifests clinically with abdominal pain and cramping, vaginal bleeding and passage of tissue from the uterus. On examination, the cervix is closed and ultrasonography demonstrates an empty uterus.

(Choice E) Missed abortion is a form of spontaneous abortion where the fetus expires in utero but the products of conception are not discharged from the uterus spontaneously. Patients present with loss of pregnancy symptoms and

no continued increase in uterine size. Ultrasound demonstrates a retained fetus and placenta in the uterus with no fetal heart motion.

Educational objective:

Inevitable abortion is characterized clinically by vaginal bleeding and fluid discharge, lower abdominal cramps and a dilated cervix through which the products of conception can occasionally be visualized.

The correct answer is: . Inevitable abortion

**Question 149**

Not answered

Marked out of 1.00

A 32-year-old G1P0 reports to your office for a routine OB visit at 14 weeks gestational age. Labs drawn at her first prenatal visit 4 weeks ago reveal a platelet count of 60,000, a normal PT, PTT and bleeding time. All her other labs were within normal limits. During the present visit, the patient has a blood pressure of 120/70 mm Hg. Her urine dip reveals the presence of trace protein. The patient denies any complaints. The only medication she is currently taking is a prenatal vitamin. On taking a more in-depth history you learn that, prior to pregnancy, your patient had a history of occasional nose and gum bleeds, but no serious bleeding episodes. She has considered herself to be a person who just bruises easily. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Alloimmune thrombocytopenia
- ☐ . Idiopathic thrombocytopenic purpura
- ☐ . Gestational thrombocytopenia
- ☐ . HELLP syndrome
- ☐ . Pregnancy-induced hypertension

Check

(ACOG, Practice Bulletin 6.) Immune thrombocytopenic purpura (ITP) typically occurs in the second or third decade of life and is more common in women than in men. The diagnosis of ITP is one of exclusion, because there are no pathognomonic signs, symptoms, or diagnostic tests. Traditionally, ITP is associated with a persistent platelet count of less than 100,000 in the absence of splenomegaly. Most women have a history of easy bruising and nose and gum bleeds that precede pregnancy. If the platelet count is maintained above 20,000, hemorrhagic episodes rarely occur. In cases of ITP, the patient produces IgG antiplatelet antibodies that increase platelet consumption in the spleen and in other sites. Gestational thrombocytopenia

occurs in up to 8% of pregnancies. Affected women are usually asymptomatic, have no prior history of bleeding, and usually maintain platelet counts above 70,000. In gestational thrombocytopenia, platelet counts usually return to normal in about 3 months. The cause of gestational thrombocytopenia has not been clearly elucidated. HELLP syndrome of severe preeclampsia is associated with thrombocytopenia, but this condition occurs in the third trimester and is associated with hypertension. In neonatal alloimmune thrombocytopenia, there is a maternal alloimmunization to fetal platelet antigens. The mother is healthy and has a normal platelet count, but produces antibodies that cross the placenta and destroy fetal/neonatal platelets.

The correct answer is: . Idiopathic thrombocytopenic purpura

**Question 150**

Not answered

Marked out of 1.00

A 43-year-old G2P2 comes to your office complaining of an intermittent right nipple discharge that is bloody. She reports that the discharge is spontaneous and not associated with any nipple pruritus, burning, or discomfort. On physical examination, you do not detect any dominant breast masses or adenopathy. There are no skin changes noted. Which of the following conditions is the most likely cause of this patient's problem?

Select one:

- ☐ . Duct ectasia
- ☐ . Pituitary adenoma
- ☐ . Fibrocystic breast disease
- ☐ . Breast cancer
- ☐ . Intraductal papilloma

(Katz, p 334.) Nipple discharge can occur in women with either benign or malignant breast conditions. Approximately 10% to 15% of women with benign breast disease complain of nipple discharge. However, nipple discharge is present in only about 3% of women with breast malignancies. The most worrisome nipple discharges tend to be spontaneous, unilateral, and persistent. The color of nipple discharge does not differentiate benign from malignant breast conditions. The most common breast disorder associated with a bloody nipple discharge is an intraductal papilloma. However, breast carcinoma must always be ruled out in any patient complaining of a bloody nipple discharge. Sanguineous or serosanguineous nipple discharges can also be seen in women with duct ectasia and fibrocystic breast disease. Women with hyperprolactinemia caused by a pituitary adenoma experience bilateral milky white nipple discharges.

The correct answer is: . Intraductal papilloma

**Question 151**

Not answered

Marked out of 1.00

A 53-year-old obese, postmenopausal woman presents to your office for a routine annual examination. Her last menstrual period was one year ago. Upon further questioning, she says that she sometimes experiences hot flashes of mild intensity. She is sexually active and denies vaginal dryness or dyspareunia. She has mild hypertension managed with hydrochlorothiazide and a salt-reduced diet. Her obstetrical history is significant for an elective termination of pregnancy at 35 years of age because of an abnormal MSAFP. Physical examination is normal. What is the most likely cause of the mild nature of the symptoms the patient is having?

Select one:

- ☐ . Conversion of adrenal androgens to estrogens by liver
- ☐ . Increased levels of FSH
- ☐ . Peripheral fat tissue production of estrogens
- ☐ . Conversion of adrenal androgens to estrogens by fat tissue
- ☐ . Compensatory adrenal production of estrogens

Check

During childbearing years, estrogens are mainly formed through the conversion of androgens by the enzyme aromatase, which is primarily present in granulosa cells of the ovary. Peripheral fat tissue also contains the enzyme aromatase to a lesser degree. After menopause, aromatase activity in the ovaries ceases and the only remaining tissue with aromatase activity is the peripheral fat. Patients who are obese have more peripheral fat, and therefore will have more estrogen formation. This increased estrogen formation may help to alleviate many of the typical menopausal symptoms, such as vaginal dryness or dyspareunia.

(Choice A) Estrogen is not truly produced in the peripheral fat. Only the final step of the pathway involving aromatase conversion of an androgen to an estrogen takes place in the peripheral fat.

(Choice B) While androgens are produced in the adrenal gland, there is no aromatase enzyme present to convert the androgen to an estrogen.

(Choice D) There is no aromatase present in the liver to convert androgens to estrogen.

(Choice E) Increased levels of FSH are a response to the decrease in estrogen levels and do not have any effect on menopausal symptoms.

Educational objective:

The major source of estrogen in menopausal women is from the peripheral conversion of adrenal androgens by the aromatase enzyme present in adipose tissue. This process is increased in obese women who may have decreased menopausal symptoms.

The correct answer is: . Conversion of adrenal androgens to estrogens by fat tissue

**Question 152**

Not answered

Marked out of 1.00

A 55-year-old woman presents to your office for consultation regarding her symptoms of menopause. She stopped having periods 8 months ago and is having severe hot flushes. The hot flushes are causing her considerable stress. What should you tell her regarding the psychological symptoms of the climacteric?

Select one:

- ☐ . They are related to a drop in gonadotropin levels.
- ☐ . They are not related to her changing levels of estrogen and progesterone.
- ☐ . They are primarily a reaction to the cessation of menstrual flow.
- ☐ . They commonly include insomnia, irritability, frustration, and malaise.
- ☐ . They are not affected by environmental factors.

(Ransom, pp 593-598.) Psychological symptoms during the climacteric occur at a time when much is changing in a woman's life. Steroid hormone levels are dropping, and the menses is stopping. However, studies show these two factors to be unrelated to emotional symptoms in most women. Many factors, such as hormonal, environmental, and intrapsychic elements, combine to cause the symptoms of the climacteric such as insomnia; vasomotor instability (hot flushes, hot flashes); emotional lability; and genital tract atrophy with vulvar, vaginal, and urinary symptoms.

The correct answer is: . They commonly include insomnia, irritability, frustration, and malaise.



**Question 153**

Not answered

Marked out of 1.00

A 26-year-old woman presents to her physician because of pain in her breast. She gave birth 3 months ago and is breast-feeding. Soon after she began lactating she developed cracks in the nipples, and for the past 5 days her left breast has become progressively more tender. On physical examination, her affected breast is red, hot, swollen, and painful to palpation. Her temperature is 38.3 C (101 F), and her white cell count is 13,000/mm<sup>3</sup>. Which of the following is the most likely diagnosis?

Select one:

- ☐ Traumatic hematoma
- ☐ Breast abscess
- ☐ Intraductal papilloma
- ☐ Mastalgia
- ☐ Breast cancer

Virtually the only time in life when a woman can get a breast abscess is during lactation; therefore, a red, hot, tender breast at that time is most likely to represent an abscess. The fever and leukocytosis provide further confirmation of the diagnosis.

Breast cancer (choice B) should be the number one choice if an identical vignette were given for a nonlactating woman. Breast infections are extremely rare outside of the postpartum period (unless precipitated by trauma); thus, what appears to be breast abscess in a nonlactating woman is breast cancer until proven otherwise. Because this patient is breast-feeding, a breast abscess is more likely.

Intraductal papilloma (choice C) manifests itself with bloody discharge from the breast.

Mastalgia (choice D) is part of the "fibrocystic disease" complex; as such, it is the most common benign breast disorder. It indeed produces pain, but the pain is related to the menstrual cycle and comes with "lumpiness" of the breast, rather than redness, warmth, fever, and leukocytosis.

Hematoma (choice E) is also painful, but it would come after a traumatic injury and would probably produce a mass rather than a red, hot, swollen breast with fever and leukocytosis.

The correct answer is: Breast abscess

**Question 154**

Not answered

Marked out of 1.00

A 16-year-old female presents to the ER complaining of left lower quadrant abdominal pain that started suddenly 24 hours ago. The pain does not radiate and is 5/10 in severity. She denies having fevers, vomiting, dysuria, diarrhea or vaginal bleeding. Her last menstrual period was two weeks ago. She takes no medications. On physical examination, her temperature is 37.2 C (98.9 F), blood pressure is 110/65 mmHg, pulse is 80/min and respirations are 14/min. There is mild left lower quadrant tenderness without rebound or rigidity, and the remainder of the examination is unremarkable. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Ovarian torsion
- ☐ . Ectopic pregnancy
- ☐ . Midcycle pain
- ☐ . Ovarian hyperstimulation syndrome
- ☐ . Leiomyoma

Midcycle pain (mittelschmerz) is common in women with regular menstrual periods who are not taking birth control pills (i.e. women who are ovulating). This pain is the result of ovulation itself, and as such tends to occur about two weeks after the start of the last menstrual period. Midcycle pain often lateralizes to the ovary that produced a mature ovum, so it can be unilateral. The timing of these symptoms with regards to the menstrual cycle and the absence of other worrisome physical examination findings including fever help narrow the differential diagnosis.

(Choice A) The patient's last menstrual period was 2 weeks ago, so an ectopic pregnancy as the cause of her abdominal pain is unlikely.

(Choice B) In rare instances leiomyomas can cause acute pain, for example when there are complications like torsion or red degeneration. Low grade fever, uterine tenderness and leukocytosis are typically also present. A leiomyoma would be unlikely in this age group.

(Choice D) Appendicitis causes right lower quadrant abdominal pain.

(Choice E) Pelvic inflammatory disease often causes bilateral pain, fever and uterine or adnexal tenderness.

(Choice F) Ovarian torsion is a medical emergency. Patients present with sudden-onset lower quadrant abdominal pain that radiates to the groin or

back and is accompanied by nausea and vomiting. An adnexal mass is usually present.

(Choice G) Ovarian hyperstimulation syndrome is an iatrogenic complication of ovulation-inducing drugs. It is characterized by abdominal pain due to ovarian enlargement and may be accompanied by ascites, respiratory difficulty and other systemic findings.

Educational objective:

Abdominal pain in a young female in the middle of her cycle with a benign history and clinical examination is most likely mittelschmerz (midcycle pain).

The correct answer is: . Midcycle pain

**Question 155**

Not answered

Marked out of 1.00

A 32-year-old G2P1 at 41 weeks is undergoing an induction of oligohydramnios. During the course of her labor, the fetal heart rate tracing demonstrates severe variable decelerations that do not respond to oxygen, fluid, or amnioinfusion. The patient's cervix is dilated to 4 cm. A low-transverse cesarean delivery is performed for nonreassuring fetal heart tones. After delivery of the fetus you send a cord gas, which comes back with the following arterial blood values: pH 7.29, Pco<sub>2</sub>: 50, and Po<sub>2</sub>: 20. What condition does the cord blood gas indicate?

Select one:

- ☐ . Fetal asphyxia
- ☐ . Fetal acidemia
- ☐ . Fetal hypoxia
- ☐ . Normal fetal status
- ☐ . Fetal metabolic acidosis

(Cunningham, pp 638-639. Beckmann, pp 119-120.) The blood gas results described in this case are normal. Normal values for umbilical arterial samples are pH 7.25 to 7.3, PCO<sub>2</sub> 50 mm Hg, PO<sub>2</sub> 20 mm Hg, and bicarbonate 25 mEq. Acidemia is generally defined as a pH less than 7.20. Birth asphyxia generally refers to hypoxic injury so severe that the umbilical artery pH is less than 7.0, a persistent Apgar score is between 0 and 3 for more than 5 minutes, neonatal sequelae exist such as seizures or coma, and there is multiorgan dysfunction.

The correct answer is: . Normal fetal status

**Question 156**

Not answered

Marked out of 1.00

A 25-year-old woman, gravida 2, para 2, comes to the physician to discuss birth control options. She and her partner have tried to use condoms; however, they find it difficult to use them consistently and she would like to try another form of contraception. She has no medical problems, takes no medications, and has no family history of cancer. Her examination is within normal limits. After a discussion with the physician, she chooses to take the oral contraceptive pill (OCP). She stays on the pill for the next three years. She now has most significantly decreased her risk of developing which of the following malignancies?

Select one:

- ☐ . Cervical cancer
- ☐ . Liver cancer
- ☐ . Endometrial cancer
- ☐ . Bone cancer
- ☐ . Breast cancer

Check

Several studies have established a relationship between folic acid and the prevention of neural tube defects. The presence of adequate levels of maternal folate appears to play a role in the correct development and closure of the neural tube. Based on these studies, in 1992, the United States Centers for Disease Control recommended that all women of child-bearing age should consume 0.4 mg/day of folic acid starting preconceptionally and continuing for the first 3 months of pregnancy. Women who have already had a child with a neural tube defect, however, fall into a different category. This patient had a child with spina bifida 2 years ago. For a woman such as this, the recommendation is that 4.0 mg of folic acid be taken daily, starting one month before the planned time of conception and continuing on for the first 3 months of pregnancy. It is believed that this level of supplementation will decrease the risk of having another child with a neural tube defect by 60 to 70%. To recommend folic acid, 4 mg/day starting in the first trimester (choice B) would be incorrect. This patient, because she has had a prior child with a neural tube defect, should indeed be taking 4 mg/day during the first 3 months of pregnancy. However, she shouldn't start when she is pregnant, rather, she should be taking this level of folic acid supplementation starting preconceptionally. It is important that the pregnant woman's folate stores are being supplemented prior to the time of conception. To recommend vitamin A, 10,000 IU/day starting preconceptionally (choice C) or vitamin A, 10,000 IU/day starting in the first trimester (choice D) would be incorrect. First, vitamin A deficiency is very rare in the United States. Second, vitamin A supplementation with levels of 10,000 IU/day and above has been associated with birth defects. Supplements taken by pregnant women should contain 5,000 IU/day or less. To state that no supplements are needed (choice E) is incorrect. This patient has a previous child with a neural tube defect. She should therefore take 4.0 mg of folic acid/day starting one month before conception and continuing through the first 3 months of pregnancy to help prevent having another child with a neural tube defect.

The correct answer is: . Endometrial cancer

**Question 157**

Not answered

Marked out of 1.00

A 9-year-old girl presents for evaluation of regular vaginal bleeding. History reveals thelarche at age 7 and adrenarche at age 8. Which of the following is the most common cause of this condition in girls?

Select one:

- ☐ . Gonadal tumors
- ☐ . Idiopathic
- ☐ . McCune-Albright syndrome
- ☐ . Hypothyroidism
- ☐ . Tumors of the central nervous system

(Katz, pp 951-958. Speroff, pp 392-403.) In North America, pubertal changes before the age of 8 years in girls and 9 years in boys are regarded as precocious. Although the most common type of precocious puberty in girls is idiopathic, it is essential to ensure close long-term follow-up of these patients to ascertain that there is no serious underlying pathology, such as tumors of the central nervous system or ovary. Only 1% to 2% of patients with precocious puberty have an estrogen-producing ovarian tumor as the causative factor. McCune-Albright syndrome (polyostotic fibrous dysplasia) is also relatively rare and consists of fibrous dysplasia and cystic degeneration of the long bones, sexual precocity, and café au lait spots on the skin. Hypothyroidism is a cause of precocious puberty in some children, making thyroid function tests mandatory in these cases. Tumors of the central nervous system as a cause of precocious puberty occur more commonly in boys than in girls; they are seen in about 11% of girls with precocious puberty.

The correct answer is: . Idiopathic

**Question 158**

Not answered

Marked out of 1.00

A 27-year-old female at 30 weeks gestation complains of difficulty hearing, especially on the right side. She denies any ear pain or discharge. Her pregnancy was complicated by acute pyelonephritis at 22 weeks gestation, which was treated with antibiotics. She does not smoke or consume alcohol, and she eats a balanced diet. She has no preexisting medical problems and takes no medications aside from a multivitamin. Her blood pressure is 160/100 mmHg and heart rate is 75/min. Cardiac and pulmonary examinations are unremarkable. No focal abnormalities are found on neurologic examination. When a tuning fork is placed on the right mastoid process, she appreciates the tone louder than when it is held near the

external auditory meatus. Audiometry shows right low-frequency hearing loss. Which of the following is the most likely cause of this patient's complaints?

Select one:

- ☐ . Hypertension of pregnancy
- ☐ . Chronic otitis media
- ☐ . Otosclerosis
- ☐ . Meniere's disease
- ☐ . Antibiotic treatment

Check

The above vignette describes the Rinne test in which a tuning fork is placed over the mastoid process and then to the ear. In a normal patient, the tone is typically louder when placed next to the ear as opposed to on the mastoid process, indicating increased air conduction compared to bone conduction. Bone conduction that is greater than air conduction in an ear with hearing loss is suggestive of conductive hearing loss. The normal finding of air greater than bone conduction can also be found in sensorineural hearing loss. This test can be used in conjunction with the Weber test, which helps to localize the side of decreased hearing by placing the tuning fork in the midline of the face and asking the patient which side sounds louder. The most likely diagnosis in this particular case is otosclerosis, and the patient's pregnancy and recent episode of pyelonephritis are likely unrelated. Otosclerosis is the most common cause of conductive hearing loss in adults, and is most common in patients in their 20's and 30's. There is a slight female predominance. In otosclerosis, the stapes footplate becomes fixed to the oval window, resulting in loss of its piston action. This disorder is sometimes also referred to as otospongiosis because CT may show a lucent (as opposed to sclerotic) focus in the temporal bone near the oval window. Therefore, CT could be used to confirm the diagnosis in this case.

(Choice A) Ototoxic antibiotics such as aminoglycosides usually result in sensorineural as opposed to conductive hearing loss.

(Choice B) This patient's high blood pressure will likely require further evaluation and treatment, but it is unlikely to be contributing to her hearing loss.

(Choice C) Meniere's disease affects the inner ear and typically presents with aural fullness, tinnitus, and sensorineural hearing loss.

(Choice E) Chronic otitis media may cause conductive hearing loss, but it is typically accompanied by pain and can easily be diagnosed by otoscopic examination.

(Choice F) An acoustic neuroma, also known as a vestibular schwannoma, typically results in sensorineural hearing loss.

(Choice G) Presbycusis is sensorineural hearing loss that occurs in adults with advanced age.

Educational objective:

Bone conduction that is greater than air conduction on the Rinne test is suggestive of conductive hearing loss. The most common cause of conductive hearing loss in adults (particularly young adults) is otosclerosis.

The correct answer is: . Otosclerosis



**Question 159**

Not answered

Marked out of 1.00

A postmenopausal woman presents with pruritic white lesions on the vulva. Punch biopsy of a representative area is obtained. Which of the following histologic findings is consistent with the diagnosis of lichen sclerosis?

Select one:

- ☐ . Acute inflammatory infiltration
- ☐ . Presence of mitotic figures
- ☐ . Increase in the number of cellular layers in the epidermis
- ☐ . Presence of thickened keratin layer
- ☐ . Blunting or loss of rete pegs

Check

(DiSaia, pp 41-42.) Lichen sclerosis was formerly termed lichen sclerosis et atrophicus, but recent studies have concluded that atrophy does not exist. Patients with lichen sclerosis of the vulva tend to be older; they typically present with pruritus, and the lesions are usually white with crinkled skin and well-defined borders. The histologic appearance of lichen sclerosis includes loss of the rete pegs within the dermis, chronic inflammatory infiltrate below the dermis, the development of a homogenous subepithelial layer in the dermis, a decrease in the number of cellular layers, and a decrease in the number of melanocytes. Mechanical trauma produces bullous areas of lymphedema and lacunae, which are then filled with erythrocytes. Ulcerations and ecchymoses may be seen in these traumatized areas as well. Mitotic figures are rare in lichen sclerosis, and hyperkeratosis is not a feature. While a significant cause of symptoms, lichen sclerosis is not a premalignant lesion. Its importance lies in the fact that it must be distinguished from vulvar squamous cancer.

The correct answer is: . Blunting or loss of rete pegs

**Question 160**

Not answered

Marked out of 1.00

A previously healthy 50-year-old gravida 5, para 4, Caucasian woman comes to the physician complaining of passing small amounts of urine while sneezing or coughing for the past five months. She denies any episodes of weakness, numbness or fecal incontinence. There is no history of dysuria, increased frequency of urination, or hematuria. Her symptoms are progressively getting worse. Her other medical problems include diabetes mellitus type 2 diagnosed 3 years ago, treated with glyburide 2.5mg/day. She does not use tobacco, alcohol, or drugs, and has no known drug allergies. She mentions that she is an avid jogger, but her problem causes her significant embarrassment. She now has to wear absorbent pads while

jogging. Her vital signs are within normal limits. On examination, the abdomen is soft. Neurological examination is within normal limits. Pelvic examination shows a cystocele. The patient's labs reveal:

Urine:

Specific gravity: 1.020,

Blood: negative,

Glucose: negative,

Leukocyte esterase: negative,

Nitrites: negative,

WBC: 5-10/hpf,

Bacteria: none.

Random blood sugar is 120 mg/dl. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ . Overflow incontinence due to detrusor weakness
- ☐ . Interstitial cystitis
- ☐ . Pelvic floor muscle weakness
- ☐ . Overflow incontinence due to medication
- ☐ . Detrusor instability

Check

Stress incontinence is a common cause of incontinence in older women, high parity being one of the major risk factors. A high number of vaginal deliveries may lead to pelvic floor muscle weakness over a period of time. The proximal urethra prolapses outside the pelvis due to pelvic relaxation, so whenever there is a rise in intraabdominal pressure (e.g. coughing, sneezing, laughing), bladder pressure rises and urine is simultaneously lost in small amounts.

Aggravating factors for stress incontinence include morbid obesity, pregnancy, COPD and smoking. Diagnosis is usually based on the history and physical examination showing evidence of pelvic floor weakness such as uterine prolapse and/or cystocele. Urine analysis, cystometry and postvoid residual volume are normal. Therapy includes Kegel exercises, pessaries and estrogen replacement (in postmenopausal women). Surgical treatment includes the Burch procedure and sling procedures; these offer the highest cure rates, but are associated with a potential for morbidity.

(Choices A, Band C) Detrusor instability, bladder irritation from a neoplasm, and interstitial cystitis result in urge incontinence, which causes sudden and frequent loss of moderate to large amounts of urine. This is often

accompanied by nocturia and frequency. Since the patient does not complain of dysuria, frequency and urgency, and since the urine analysis is normal, it is unlikely that interstitial cystitis is the diagnosis.

(Choice D) Diabetic neuropathy causes overflow incontinence, which is characterized by loss of small amounts of urine from an over distended bladder, and a markedly increased residual volume. Patients usually have a long history of diabetes that is not well controlled.

Educational Objective:

A history of loss of small amounts of urine simultaneously occurring with activities that increase intraabdominal pressure, along with a physical examination demonstrating pelvic floor weakness, is diagnostic of stress incontinence. Urine analysis, cystometry and postvoid residual volume are normal.

The correct answer is: . Pelvic floor muscle weakness

**Question 161**

Not answered

Marked out of 1.00

You have diagnosed a healthy, sexually active 24-year-old female patient with an uncomplicated acute urinary tract infection. Which of the following is the likely organism responsible for this patient's infection?

Select one:

- ☐ . Escherichia coli
- ☐ . Chlamydia
- ☐ . Klebsiella
- ☐ . Candida albicans
- ☐ . Pseudomonas

Check

(Katz, pp 545-551. Beckmann, pp 297-298.) Approximately 15% to 20% of women develop urinary tract infections (cystitis) at some point during their lives. Cystitis is diagnosed when a clean-catch urine sample has a concentration of at least 100,000 bacteria per mL of urine and when the patient suffers the symptoms of dysuria, frequency, urgency, and pain. The most common etiology of urinary tract infections (UTIs) is *E. coli*. Treatment of a UTI involves obtaining a culture and starting a patient on an antibiotic regimen of sulfa or nitrofurantoin, which have good coverage against *E. coli* and are relatively inexpensive. Patients treated for a UTI should have a follow-up culture done 10 to 14 days after the initial diagnosis to document a cure. Patients treated for a UTI, who have persistent symptoms after treatment should have a urine culture performed to evaluate for the presence of resistant organisms. Patients with acute pyelonephritis may be treated on an outpatient basis unless they cannot tolerate oral antibiotic therapy or show evidence of sepsis. Women who experience recurrent UTIs with intercourse benefit from voiding immediately after intercourse. If this treatment method fails, then prophylactic treatment with an antibiotic effective against *E. coli* may help prevent recurrent UTIs. Urinary antispasmodics do not prevent infection.

The correct answer is: . Escherichia coli

**Question 162**

Not answered

Marked out of 1.00

A 23-year-old G1P0 woman at 28 weeks' gestation presents to her obstetrician for a prenatal examination. She has received poor prenatal care up to this point, but is confident about dating the pregnancy. She denies use of alcohol and illicit drugs but has continued to smoke during the pregnancy. The mother has gained only 9 kg (20 lb) during the course of the pregnancy. The mother's temperature is 36.8C (98.2F), pulse is 94/min, blood pressure is

138/84 mm Hg, and respiratory rate is 12/min. The fundal height is 23 cm above the pubic symphysis. Further examination with ultrasound reveals the fetus is <10% of the expected weight for the gestational age with symmetric growth anomalies. What is the most likely cause for the intrauterine growth restriction of this fetus?

Select one:

- ☐ Inadequate maternal weight gain during pregnancy
- ☐ Maternal hypertension
- ☐ Singleton pregnancy
- ☐ In utero infection
- ☐ Maternal smoking

Check

Causes of symmetric IUGR include in utero infection, multiple pregnancies, and maternal disease. Asymmetric IUGR is more often due to uteroplacental insufficiency from maternal hypertension, smoking, and poor nutrition. Since this fetus demonstrates symmetric IUGR, the most likely cause of the IUGR is an early in-utero infection.

Answer B is incorrect. Inadequate weight gain inhibits growth by cellular hyperplasia, and causes asymmetric IUGR. However, because nutritional deficiency only affects cellular hyperplasia rather than division, it is more amenable to reversal if the nutritional deficit is corrected.

Answer C is incorrect. Maternal hypertension, like smoking, causes IUGR through uteroplacental insufficiency. This is likely to cause asymmetric IUGR rather than the symmetric IUGR demonstrated in this child.

Answer D is incorrect. Maternal smoking affects fetal growth by causing a relative uteroplacental insufficiency. The fetal nutritional requirements exceed the placenta's ability to provide nutrients, especially later in pregnancy. Thus smoking is more likely to cause asymmetric IUGR.

Answer E is incorrect. Singleton pregnancy has not been shown to be a risk factor for IUGR. Rather, multiple gestations can lead to IUGR through decreased relative amount of nutrients available to each fetus.

The correct answer is: In utero infection

**Question 163**

Not answered

Marked out of 1.00

A 13-year-old girl had growth of breast buds at 11 years, followed by the appearance of pubic hair between the ages of 11.5 and 12 years. Which pubertal event is most likely to occur next?

Select one:

- ☐ Tanner stage 5 breast development
- ☐ menarche
- ☐ maximal growth rate
- ☐ Tanner stage 5 pubic hair
- ☐ beginning of accelerated growth

Check

The mean age of onset of any pubertal event is approximately 11 years, beginning with the appearance of breast buds. Pubic hair appears approximately 6 months later, and this is followed by the peak height velocity (greatest rate of linear growth per unit time). Six to 12 months later, menstrual bleeding begins. Increased rate of growth begins early in the pubertal process. The sequence of pubertal events and the approximate age of appearance of each event is sufficiently predictable that significant variation in age of onset or sequence should lead to an evaluation of a cause of abnormal puberty. (Speroff and Fritz, 2005, pp. 365–372)

The correct answer is: maximal growth rate

**Question 164**

Not answered

Marked out of 1.00

A 48-year-old G5P5 woman has genuine stress incontinence (GSI). Kegel exercises have not helped, and her incontinence is gradually worsening. Her urethrovesical junction (UVJ) is prolapsed into the vagina, and her urethral closure pressure is normal. Which of the following procedures will most likely cure her incontinence?

Select one:

- ☐ anterior colporrhaphy
- ☐ paraurethral collagen injections
- ☐ needle suspension of paraurethral tissue
- ☐ retropubic urethropexy
- ☐ suburethral sling procedure

In a patient with GSI, a retropubic approach offers the best long-term cure of the incontinence. The Burch procedure and the Marshall- Marchetti-Krantz procedure are the most common retropubic procedures. With an anterior colporrhaphy, plication sutures are placed at the UVJ in an effort to support and elevate it. Long-term results are not as good as a retropubic urethropexy or a suburethral sling. A suburethral sling procedure is used when urethral closing pressure is low, less than 20 cmH<sub>2</sub>O. A needle suspension procedure is most often done when there is associated genital prolapse with potential incontinence. Collagen injections at the UVJ have been attempted to obstruct the urethra partially. Incontinent patients who may benefit the most from collagen injections are those with intrinsic sphincter deficiency and a fixed bladder neck. (Scott et al., 2003, pp. 856–866)

The correct answer is: retropubic urethropexy

**Question 165**

Not answered

Marked out of 1.00

A 36-year-old woman comes to your office because of back pain. She states that the pain started around the time of her cesarean delivery 8 weeks ago. The pain is located in the lower back and does not radiate. It improves with rest and worsens with prolonged standing. She cannot stand for more than 30 minutes without what she describes as debilitating pain. She has no significant past medical history. She had a cesarean delivery 8 weeks ago for arrest of dilation during labor. She had epidural anesthesia for labor and surgery. Otherwise she has never had surgery. She takes ibuprofen for the pain. She is allergic to sulfa drugs. Physical examination is within normal limits, including a normal neurologic examination. The patient is most interested in knowing what caused her to start having this back pain. Which

of the following is the most appropriate response?

Select one:

- ☐ . "Your back pain is normal in the postpartum period."
- ☐ . "Your back pain was likely caused by the arrest of dilation."
- ☐ . "Your back pain was likely caused by the cesarean delivery."
- ☐ . "Your back pain is most likely caused by breastfeeding."
- ☐ . "Epidurals have not been shown to be associated with back pain."

Check

Approximately 60% of American women (or 2.4 million women annually) have epidural anesthesia for pain control during labor and delivery. Epidural anesthesia is the method of anesthesia in which a catheter is placed into the epidural space. Opioids and local anesthetics are administered through the catheter to provide pain relief. There has been much controversy over the years regarding the effects of epidural on labor, cesarean delivery, instrument-assisted vaginal delivery, maternal temperature, and back pain. Numerous studies have been performed on these topics. Current evidence strongly suggests that epidurals increase the duration of labor by approximately 1 hour. The rate of instrument-assisted vaginal delivery (i.e., forceps or vacuum) also seems to increase with the use of epidurals. Maternal temperature also has been shown to increase in women who have an epidural. Whether or not epidural use increases the cesarean rate has not been established by the studies that have been performed to date. Finally, and most relevant to this patient, epidural use has not been associated with postpartum back pain. This patient's back pain, therefore, is likely attributable to another cause.

To state that the back pain is most likely caused by breastfeeding (choice B) would not be correct. Breastfeeding is associated with a large number of positive health benefits for the mother and child. This patient's low back pain is not likely to be caused by her breastfeeding.

To state that the back pain was likely caused by the arrest of dilation (choice C) is not correct. Patients can have an arrest of dilation during labor for several reasons, including fetal size, pelvic size, strength of uterine contractions, and other such causes. It would be incorrect to assume a relationship between this patient's back pain and her arrest of dilation.

To state that the back pain was likely caused by the cesarean delivery (choice D) is incorrect. Although cesarean delivery can cause back pain, it is incorrect to assume that this is the cause.



To state that this back pain is normal in the postpartum period (choice E) is incorrect. Some back pain can be normal during the postpartum period, but this patient has debilitating back pain that prevents her from standing for longer than 30 minutes. This is not normal.

The correct answer is: . "Epidurals have not been shown to be associated with back pain."

**Question 166**

Not answered

Marked out of 1.00

A 34-year-old G3P2 delivers a baby by spontaneous vaginal delivery. She had scant prenatal care and no ultrasound, so she is anxious to know the sex of the baby. At first glance you notice female genitalia, but on closer examination the genitalia are ambiguous. Which of the following is the best next step in the evaluation of this infant?

Select one:

- ☐ . Pelvic ultrasound
- ☐ . Thorough physical examination
- ☐ . Chromosomal analysis
- ☐ . Laparotomy for gonadectomy
- ☐ . Evaluation at 1 month of age

Check

(Speroff, pp 350-354.) Ambiguous genitalia at birth is a medical emergency, not only for psychological reasons for the parents but also because hirsute female infants with congenital adrenal hyperplasia (CAH) may die if undiagnosed. CAH is an autosomally inherited disease of adrenal failure that causes hyponatremia and hyperkalemia because of lack of mineralocorticoids. A thorough physical examination is the best initial evaluation. While it will not give the definitive diagnosis of the sex, it can provide clues. Are the gonads palpable in the inguinal canal? Are the labia fused? Is there a vagina or pouch? Is there hyper- or hypotension, or signs of dehydration. Karyotype, electrolyte analysis, blood or urine assays for progesterone, 17 $\alpha$ -hydroxyprogesterone, and serum androgens such as dehydroepiandrosterone sulfate are essential to the workup. Pelvic ultrasound or MRI can detect ovaries or undescended testes, but that is not the first step in management. Laparotomy or laparoscopy is sometimes necessary for ectopic gonadectomy after puberty has occurred.

The correct answer is: . Thorough physical examination

**Question 167**

Not answered

Marked out of 1.00

A 7-year-old girl is brought to your office by her parents after they noticed the development of axillary and pubic hair 3 months ago. The girl has also experienced a significant growth spurt over the past year. There has been no change in her behavior or school performance. The girl denies headaches, vomiting or visual disturbances. Her personal and family medical histories are unremarkable. On examination, you note the presence of axillary hair, pubic hair at Tanner stage 2, and breast development at Tanner stage 3. Abdominal, genital and neurologic examinations reveal nothing abnormal. Her bone age is more than two standard deviations above normal. Serum FSH and LH levels are elevated. MRI of the brain is normal. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ . Excess peripheral conversion of testosterone to estrogen
- ☐ . Polycystic ovarian syndrome
- ☐ . Early activation of the hypothalamic-pituitary-ovarian axis
- ☐ . Estrogen-producing ovarian cysts
- ☐ . Late onset congenital adrenal hyperplasia

Precocious puberty is defined as the development of secondary sex characteristics before the age of 8 in girls and 9 in boys. Accelerated bone growth and advanced bone age are also common. This girl has begun to develop secondary sex characteristics at the age of 7, and therefore meets the criteria for precocious puberty. The causes of precocious puberty can be broken into two categories: central and peripheral. Central precocious puberty is the result of early activation of the hypothalamic-pituitary-ovarian (HPA) axis. Therefore, FSH and LH levels are elevated in central precocious puberty. In contrast, patients with peripheral precocious puberty present with low FSH and LH levels. Whereas central precocious puberty is caused by GnRH activation, peripheral precocious puberty is caused by gonadal or adrenal release of excess sex hormones.

(Choice A) Excess peripheral conversion of testosterone to estrogen will result in low LH and FSH (feedback inhibition).

(Choice B) Estrogen-producing ovarian cysts result in peripheral precocious puberty. While girls with this condition demonstrate premature development of secondary sexual characteristics and may also have accelerated linear growth, they present with low FSH and LH levels.

(Choice C) PCOS is not a cause of precocious puberty. PCOS presents clinically with oligomenorrhea/anovulation and hyperandrogenism in females of reproductive age.

(Choice D) There are multiple forms of congenital adrenal hyperplasia (CAH), each of which may present with a specific pattern of findings. CAH is a cause of peripheral precocious puberty. Affected patients have low FSH and LH levels.

Educational objective:

Precocious puberty has both central and peripheral causes. Central precocious puberty presents with increased FSH and LH, while peripheral causes present with low FSH and LH. All patients with central precocious puberty should receive brain imaging with CT or MRI. Treatment is with GnRH analog therapy.

The correct answer is: . Early activation of the hypothalamic-pituitary-ovarian axis

**Question 168**

Not answered

Marked out of 1.00

A 16-year-old girl presents for evaluation of acne, which has been getting progressively worse over the past 2 weeks. Her medical history is significant for systemic lupus erythematosus (SLE) for which she has been taking prednisone for a recent exacerbation. Hydroxychloroquine is her only other medicine. She does not use tobacco, alcohol or drugs and her menstrual cycle is regular. On physical examination, her blood pressure is 110/76 mmHg and her pulse is 72/min. Her BMI is 22 kg/m<sup>2</sup>. Distributed over the face, arms and trunk are monomorphous erythematous papules. There are no open or closed comedones. The remainder of the physical examination is unremarkable. Which of the following is the most likely cause of her acne?

Select one:

- ☐ . Polycystic ovarian disease
- ☐ . Adolescent acne
- ☐ . Medication side effect
- ☐ . Systemic lupus erythematosus
- ☐ . Androgen abuse

Check

This patient has steroid-induced folliculitis, or steroid acne, secondary to the prednisone she is using for her SLE flare. Steroid acne is characterized by monomorphous pink papules and absence of comedones.

(Choice A) Adolescent acne is characterized by open and closed comedones and inflammatory nodules in differing stages of evolution primarily affecting the face, chest and back.

(Choice B) Androgen abuse is a possible cause of both acne vulgaris and steroid-induced acne. One of the main pathophysiologic mechanisms underlying acne vulgaris is androgen excess. Given her history, steroid acne is more likely.

(Choice C) In polycystic ovarian syndrome (PCOS) there is an underlying excess of serum androgens. As such, it is commonly associated with acne vulgaris. Other findings in PCOS include irregular menses, anovulation, and hirsutism.

(Choice E) Systemic lupus erythematosus itself is not a common cause of acneiform lesions. The skin finding most classic for SLE is an erythematous malar eruption.

Educational objective:

Systemic and topical corticosteroids can induce an acneiform eruption characterized by monomorphous, erythematous follicular papules distributed on the face, trunk and extremities. Comedones are characteristically absent.

The correct answer is: . Medication side effect

**Question 169**

Not answered

Marked out of 1.00

A 52-year-old woman comes to the physician because of hot flashes. Her last menstrual period was 1 year ago. Over the past year, she has noted a persistence of her hot flashes, which come several times each day and are associated with a feeling of heat and flushing. They also awaken her at night and interfere with her sleep. She has no medical problems, takes no medications, and has no known drug allergies. She has a family history of cardiovascular disease and she does not smoke. Physical examination is unremarkable. She is started on estrogen and medroxyprogesterone acetate (Provera). The addition of a progestin is most likely to decrease her risk of which of the following?

Select one:

- ☐ . Endometrial cancer
- ☐ . Weight gain
- ☐ . Mood changes
- ☐ . Breast pain
- ☐ . Breast cancer

Unopposed estrogen is known to cause endometrial hyperplasia and cancer. Estrogen has direct effects on the growth and development of the endometrium. Studies have shown that the addition of a progestin can protect a woman from the development of endometrial hyperplasia and that the addition of a progestin to women with endometrial hyperplasia can lead the endometrium to revert to normal. Thus, any woman with a uterus who is on estrogen therapy should also be on a progestin to protect her endometrium. This is usually done by placing the patient on daily estrogen and progesterone or on cyclic progesterone. Progestins do not protect against the development of breast cancer (choice A). In fact, there is evidence that progestins may stimulate the growth of breast tumors. Breast pain (choice B) is often a result of progestin therapy. Mood changes (choice D) and weight gain (choice E) are well-known side effects of progestins.

The correct answer is: . Endometrial cancer

**Question 170**

Not answered

A 39-year-old G5P5 woman delivered a 4.1-kg (9-lb) healthy male infant 20 minutes ago. She is now experiencing heavy vaginal bleeding, with the

Marked out of 1.00

passage of large blood clots. She had an uncomplicated pregnancy, with a 15.9-kg (35-lb) weight gain. The patient had spontaneous onset of labor and spontaneous rupture of the membranes at 5 cm dilation. Labor lasted 3 hours, including 10 minutes of pushing. She did not have an episiotomy. The placenta delivered spontaneously 5 minutes after the infant, was normal in appearance, and was intact with a 3-vessel cord. The patient's previous 4 pregnancies and deliveries were normal. Her blood pressure is 110/60 mm Hg, pulse is 106/min, and respirations are 20/min. The uterine fundus is soft and at the level of the umbilicus. The patient's peri-pad is saturated with blood, and there are clots extruding from the vagina. Which of the following is the most likely cause of this patient's symptoms?

Select one:

- ☐ . Uterine atony
- ☐ . Retained placental tissue
- ☐ . Clotting disorder
- ☐ . Inverted uterus
- ☐ . Cervical/vaginal laceration

Uterine atony is the cause of 80% of postpartum bleeding that occurs within the first 24 hours after delivery. A soft, "boggy," poorly contracted uterus is characteristic of uterine atony. Compression of the uterus usually results in expulsion of blood clots and blood from the vagina. Risk factors for uterine atony include uterine overdistention (eg, multiple gestation, polyhydramnios, macrosomia) and uterine fatigue (prolonged labor).

(Choice A) If bleeding persists in a patient believed to have uterine atony, other causes should be ruled out. The cervix and vagina should be examined using appropriate lighting and careful visualization, which requires adequate anesthesia and appropriate instruments for retraction of the vaginal walls. Any visible lacerations that are bleeding or have the potential to bleed should be repaired.

(Choice B) A clotting disorder is a less common cause of postpartum hemorrhage and is suggested by a medical or family history of a clotting disorder or unexplained abnormal bleeding. It can be associated with the HELLP (Hemolysis, Elevated Liver enzymes, and Low Platelet count) syndrome and amnionic fluid embolism and sepsis.

(Choice C) With an inverted uterus, there is usually a firm mass below or near the cervix and lack of identification of the uterus corpus on abdominal examination. Inversion can occur before or after placental separation. Forceful

traction on the umbilical cord to remove the placenta and an abnormally adherent placenta are potential causes.

(Choice D) Retained placental tissue is unlikely when the placenta has delivered spontaneously. The placenta should be inspected for structural intactness immediately after delivery. It also should be inspected for blood vessels extending off the edge that suggest a retained succenturiate lobe of the placenta.

Educational objective:

The most common cause (80%) of postpartum hemorrhage within 24 hours of delivery is uterine atony. It is important to make a quick diagnosis by checking the firmness and location of the uterus fundus. If bleeding persists despite treatment, other causes should be ruled out.

The correct answer is: . Uterine atony

**Question 171**

Not answered

Marked out of 1.00

A 16-year-old female comes to the physician because of an increased vaginal discharge. She developed this symptom 2 days ago. She also complains of dysuria. She is sexually active with one partner and uses condoms intermittently. Examination reveals some erythema of the cervix but is otherwise unremarkable. A urine culture is sent which comes back negative. Sexually transmitted disease testing is performed and the patient is found to have gonorrhea. While treating this patient's gonorrhea infection, treatment must also be given for which of the following?

Select one:

- ☐ . Herpes
- ☐ . Trichomoniasis
- ☐ . Syphilis
- ☐ . Chlamydia
- ☐ . Bacterial vaginosis

Check

This patient has a gonorrhea infection. Gonorrhea is one of the most prevalent sexually transmitted diseases (STDs) in the United States. It is more common in patients of lower socioeconomic status, patients with multiple sexual partners, and in urban settings. The causative organism is *N. gonorrhoeae*, a gram-negative aerobic diplococcus. Up to 80% of women that are infected with the organism will have no symptoms at all or only vague symptoms.

Symptoms that are frequently noted are vaginal discharge, postcoital spotting, and urinary symptoms if the urethra is involved. Examination may reveal a cervicitis, although this is not always present. A patient found to have gonorrhea should be treated with intramuscular ceftriaxone or oral cefixime, ofloxacin, or ciprofloxacin. These medications will effectively eradicate the gonococcus. However, because *Chlamydia trachomatis* can be isolated in up to 50% of women with gonorrhea and because women treated for gonorrhea only may soon go on to develop Chlamydia or pelvic inflammatory disease (PID), any woman receiving treatment for gonorrhea should also be treated for Chlamydia. Treatment of Chlamydia is with azithromycin or doxycycline. It is also essential that this patient's partner be treated as well. When treating a patient for gonorrhea, there is no need to treat the patient with metronidazole to treat bacterial vaginosis (choice A) as well, unless there is evidence of a bacterial vaginosis. Herpes (choice C) often presents as painful vesicles and ulcers. Patients with gonorrhea do not need to be treated for herpes as well, unless there is evidence for herpes infection. Patients with gonorrhea are at increased risk of having other sexually transmitted diseases, including syphilis (choice D). It would be prudent to check this patient for syphilis with a blood test. However, in the absence of a positive syphilis test, patients with gonorrhea do not need to be treated for syphilis. Trichomoniasis (choice E) is treated with metronidazole. Again, as with bacterial vaginosis, herpes, and syphilis, unless there is evidence of *Trichomonas* infection, the patient does not need to be treated for trichomoniasis.

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The correct answer is: . Chlamydia



**Question 172**

Not answered

Marked out of 1.00

A 23-year-old G1 with a history of a flulike illness, fever, myalgias, and lymphadenopathy during her early third trimester delivers a growth-restricted infant with seizures, intracranial calcifications, hepatosplenomegaly, jaundice, and anemia. What is the most likely causative agent?

Select one:

- ☐ . Hepatitis B
- ☐ . Parvovirus
- ☐ . T. gondii
- ☐ . Influenza A
- ☐ . Cytomegalovirus

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) T. gondii is transmitted by eating infected raw or undercooked meat and contact with infected cat feces. Maternal immunity appears to protect against fetal infection, and up to one-third of American women are immune prior to pregnancy. Acute infection in the mother is often subclinical, but symptoms can include fatigue, lymphadenopathy, and myalgias. Fetal infection is more common when disease is acquired later in pregnancy (60% in third trimester vs 10% in first trimester). Congenital disease consists of low birth weight, hepatosplenomegaly, jaundice, anemia, neurological disease with seizures, intracranial calcifications, and mental retardation. Influenza does not cause any fetal effects.

The correct answer is: . T. gondii

**Question 173**

Not answered

Marked out of 1.00

A 28-year-old woman at 39 weeks gestation is admitted to the hospital. She has regular uterine contractions. Her blood pressure is 120/70mmHg, pulse is 80/min and respirations are 18/min. Fetal heart monitoring is placed and shows a baseline rate of 130 beats/min, without any associated abnormalities. Pelvic examination shows the cervix is 50% effaced and 3cm dilated. Amniotomy is performed and a bloody show is noted. Immediately after the rupture of membranes, the baseline fetal heart rate increases to 160 beats/min and then drops to 70 beats/min. As labor progresses, repetitive late decelerations are noted, as well as an increase in vaginal bleeding. Repeat vital signs of the patient shows a blood pressure of 130/70mmHg, pulse of 80/min and respirations of 18/min. Which of the following is the most likely cause of the current condition?

Select one:

- ☐ . Abnormal umbilical vessels
- ☐ . Excessive amniotic fluid
- ☐ . Abnormal placental implantation
- ☐ . Tear in uterine musculature
- ☐ . Premature separation of the placenta

Check

This is a typical presentation of a ruptured fetal umbilical vessel: an antepartum hemorrhage with very characteristic fetal heart changes progressing from tachycardia to bradycardia to a sinusoidal pattern. If fetal bleeding is suspected, an Apt test - which differentiates maternal from fetal blood - can be performed to confirm the diagnosis. Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the baby and the internal cervical os (velamentous cord insertion). These vessels are vulnerable to tearing during natural or artificial rupture of the membranes. The condition carries a high fetal mortality rate (75%) due to fetal exsanguination. When this condition is diagnosed, the treatment is an immediate caesarian section delivery ("crash C-section") .

(Choice A) Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It typically presents with dark red antepartum hemorrhage along with abdominal pain, uterine tenderness and increased uterine tone. The bleeding is of maternal origin.

(Choice B) Placenta previa is an abnormal insertion in the placenta on the lower segment of the uterus near or over the cervical os. It manifests as painless antepartum hemorrhage, and the bleeding is maternal in origin.

(Choice D) Excessive amniotic fluid (hydramnios, polyhydramnios) causes symptoms in the mother as a result of compression on the lungs, abdominal organs and vasculature. Difficulty breathing and lower extremity edema are common. Placental abruption and postpartum hemorrhage due to uterine atony are associated with hydramnios.

(Choice E) Uterine rupture presents with intense abdominal pain associated with vaginal bleeding that can range from spotting to severe hemorrhage. The bleeding is maternal in origin. Regression of the fetal presenting parts and palpability of fetal limbs on abdominal exam is typical.

Educational objective:

An antepartum hemorrhage with fetal heart changes progressing from tachycardia to bradycardia and finally to a sinusoidal pattern occurring suddenly after rupture of membranes suggests the diagnosis of vasa previa. The bleeding in this setting is fetal in origin, so maternal vital signs will remain stable while the fetus exsanguinates.

The correct answer is: . Abnormal umbilical vessels

**Question 174**

Not answered

Marked out of 1.00

A 37-year-old woman comes to the physician for evaluation of infertility. She and her 39-year-old husband have not been able to conceive after 13 months of unprotected and frequent intercourse. She has 28-day regular menstrual cycles. The patient had a pregnancy with her husband at age 31. She has no other genitourinary complaints such as menorrhagia, dyspareunia or pelvic pain. She has no previous history of sexually transmitted diseases or abdominal surgery. The patient does not use tobacco, alcohol, or illicit drugs. She is an aerobics instructor and teaches 230-minute classes daily. Her blood pressure is 130/80 mm Hg and pulse is 84/min. Her body mass index is 23 kg/m<sup>2</sup>. Complete physical examination is unremarkable. Which of the following is the most likely cause of her condition?

Select one:

- ☐ . Uterine leiomyomas
- ☐ . Premature ovarian failure
- ☐ . Decreased ovarian reserve
- ☐ . Intense exercise
- ☐ . Adrenal hyperplasia

Check

This patient meets the definition of infertility, attempting to conceive for >1 year. For women age >35, the definition of infertility is often shortened to >6 months. Given that she has conceived with her husband in the past and that she still experiences regular menstrual cycles, the patient is most likely having trouble conceiving due to her age. An inverse relationship exists between age and fertility. Women are born with their full complement of oocytes and, as they age, this reserve slowly depletes and oocyte quality decreases. At birth, a woman possesses approximately 3 million oocytes, but this number typically decreases to about 300,000 by puberty. A significant drop in oocyte number (ovulatory reserve) takes place during a woman's fourth decade so

that one in 5 women age 35-39 is no longer fertile. Infertility due to aging can be assessed using an early follicular phase follicle-stimulating hormone level, a clomiphene challenge test, or an inhibin-B level.

(Choices A and D) Endocrine disorders such as adrenal hyperplasia and hypothyroidism are associated with infertility. However, patients with infertility due to adrenal hyperplasia or hypothyroidism usually have irregular menses.

(Choices C and G) Fallopian tube obstruction and uterine leiomyomas are anatomic factors that may decrease fertility. This patient's history of a previous normal pregnancy and the absence of sexually transmitted diseases make these factors unlikely. Uterine leiomyomas are common in asymptomatic women, but this patient has no other symptoms or signs to suggest this condition.

(Choice E) Intense exercise sufficient to induce anovulation would also most likely result in amenorrhea. Patients at the greatest risk of exercise-induced infertility are long-distance runners. Thirty to 60 minutes of daily aerobic exercise would be unlikely to induce infertility, especially given her regular menstrual cycle.

(Choice F) Premature ovarian failure refers to menopause before age 40. Premature ovarian failure causes amenorrhea and can be due to autoimmune conditions, heritable factors, exogenous factors such as radiation exposure, and as an idiopathic condition.

Educational objective:

The most common cause of decreased fertility in women in their fourth decade who are still experiencing menstrual cycles is age-related decreased ovarian reserve.

The correct answer is: . Decreased ovarian reserve

**Question 175**

Not answered

Marked out of 1.00

A 58-year-old woman with stage II epithelial ovarian cancer undergoes successful surgical debulking followed by chemotherapy with carboplatin and radiation therapy. Subsequently, she develops non-pitting edema of both legs and pain and numbness in her legs. Which of the following is the most likely cause of her pain and numbness?

Select one:

- ☐ recurrent ovarian cancer
- ☐ radiation therapy
- ☐ carboplatin therapy
- ☐ lymphedema
- ☐ nerve damage caused by the pelvic lymphadenectomy

The nonpitting edema of her legs is likely the result of lymphedema. This may cause discomfort or pain in her legs, but not hypesthesia. The most likely cause of the peripheral neuropathy is the carboplatin. Toxicity at doses higher than 100 mg/m<sup>2</sup> limit its use and also limit the ability to study various doses alone and in combination with other chemotherapeutic agents, such as paclitaxel (Taxol), which may also cause peripheral neuropathy. Nonetheless, the combination of tumor debulking, pelvic and paraaortic lymph node dissection, combination paclitaxel and carboplatin, and radiation offers the longest disease-free interval. (Hoskins et al., 2005, pp. 498–499)

The correct answer is: carboplatin therapy

**Question 176**

Not answered

Marked out of 1.00

A pregnant 22-year-old Taiwanese woman presents at 15 weeks' gestation with vaginal bleeding and severe nausea and vomiting. She states she recently experienced vaginal passage of tissue that looked like grapes. Her uterine fundus is at her umbilicus and no fetal heart tones can be heard with a Doppler stethoscope. Ultrasonography of the uterus shows a "snow storm" image with no fetus or placenta. Which of the following is the most likely diagnosis?

Select one:

- ☐ Ectopic pregnancy
- ☐ Vaginal foreign body
- ☐ Endometrial carcinoma
- ☐ Molar pregnancy
- ☐ Submucous leiomyoma

This woman shows the classic symptoms of gestational trophoblastic disease and is probably carrying a complete hydatiform mole (choice E). In the United States, the frequency of trophoblastic disease is 1 per 1,500 pregnancies. However, in Taiwan and the Philippines, the rate is 1 per 125 pregnancies. The risk is increased with lower economic status and age below 18 or above 40 years. Management involves obtaining a baseline serum  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) titer, chest x-ray to rule out lung metastasis, and then evacuating the uterine contents with a suction dilation and curettage. Benign pathologic findings are followed with serial serum  $\beta$ -hCG titers for 1 year to ensure no recurrence of the disease.

The correct answer is: Molar pregnancy

**Question 177**

Not answered

Marked out of 1.00

A 34-year-old sexually active female comes to your office because of urinary frequency and dysuria for two days. She has had two such episodes in the past, each treated with oral antibiotics. Physical examination reveals suprapubic tenderness and her urinalysis is positive for nitrite, leukocyte esterase, many WBC, and a moderate amount of bacteria. Which of the following is the most common reason for the higher incidence of urinary tract infections in females than in males?

Select one:

- ☐ . Closer proximity of the urethral meatus to the anus in females

- ☐ . Higher post-void urine residual in females
- ☐ . Shorter urethral length in females
- ☐ . Frequent use of spermicide and diaphragms in females
- ☐ . Hormonal fluctuation of females

Check

Urinary tract infections (UTI) are more commonly seen in females than males, and half of all adult women have a UTI at some time in their life. The high incidence of UTI's in women is primarily due to the shorter length of the female urethra. After the periurethral area becomes colonized by rectal flora, the bacteria ascend to the bladder to cause infection. This is facilitated in females by a short urethra. Predisposing factors for UTI's include alteration of the normal vaginal flora by recent antibiotic use, sexual intercourse, diaphragm or spermicide use, or a family history of multiple UTI's. Males, on the other hand, are less likely to develop a UTI mainly because they have a longer urethra than females. They also have a drier periurethral environment and antibacterial substances in prostatic fluid, which also help to fight off infection.

(Choice A) A shorter distance between the anus and urethra in women is associated with a higher incidence of recurrent UTI's within the female population, but is not the main reason for the difference in UTI frequency between men and women.

(Choice B) Spermicide and diaphragm use are risk factors for UTI's in females. A shorter urethral length in females, however, is responsible for their higher frequency of UTI's compared to males.

(Choice D) Increased post-void urine residual is not associated with a higher incidence of recurrent UTI's in females.

(Choice E) Female hormonal fluctuation is not related to an increased incidence of UTI's in females.

Educational objective:

The increased incidence of urinary tract infections in women is due to the shorter length of the female urethra compared to males. Other predisposing factors for UTI's include sexual intercourse, recent antibiotic use, the use of spermicidal contraceptives, and a close proximity of the urethra to the anus.

The correct answer is: . Shorter urethral length in females

**Question 178**

Not answered

Marked out of 1.00

A 65-year-old woman complains of leakage of urine. Which of the following is the most common cause of this condition in such patients?

Select one:

- ☐ . Unstable bladder
- ☐ . Urethral diverticulum
- ☐ . Anatomic stress urinary incontinence
- ☐ . Fistula
- ☐ . Overflow incontinence

(Scott, pp 767-768.) As a patient ages, the incidence of vesicle instability or unstable bladder increases dramatically. Although estrogen has been reported to decrease urgency, frequency, and nocturia in menopausal women, its effect on correction of stress urinary incontinence or vesicle instability is unclear. In the elderly population there are also many transient causes of incontinence that the physician should consider. These include dementia, medications (especially  $\alpha$ -adrenergic blockers), decreased patient mobility, endocrine abnormalities (hypercalcemia, hypothyroidism), stool impaction, and urinary tract infections.

The correct answer is: . Unstable bladder

**Question 179**

Not answered

Marked out of 1.00

A 39-year-old woman, gravida 2, para 1, at 30-weeks gestation comes to the physician for a prenatal visit. The patient's due date was determined by a 7-week ultrasound. Her prenatal course has been unremarkable. She has no complaints of contractions, loss of fluid, or bleeding from the vagina, and her baby is moving well. Examination demonstrates a fetal heart rate of 150 and a fundal height of 27 centimeters, which is the same measurement as that determined 4 weeks ago. This patient's fundal height measurement is most suggestive of which of the following?

Select one:

- ☐ . Uterine cancer
- ☐ . Intrauterine growth restriction
- ☐ . Twin gestation
- ☐ . Inaccurate estimated date of delivery (due date)
- ☐ . Premature labor



[Check](#)

Fundal height measurement is a portion of the physical examination that should be performed routinely during prenatal care. It is performed by placing a measuring tape on the pubic symphysis and measuring to the top of the fundus. Between the gestational ages of 18 to 34 weeks, there is a rough correlation between weeks of gestation and fundal height in centimeters. For example, a woman at 26 weeks' gestation should have a fundal height that is roughly 26 centimeters. This patient is at 30 weeks' gestation and has a fundal height of 27 centimeters. Furthermore, and perhaps more importantly, there has been no change in the fundal height over the past four weeks. These findings are concerning for intrauterine growth restriction (IUGR). IUGR is a disorder in which the fetus is not growing appropriately. It is most commonly defined as an estimated fetal weight less than the 10th percentile for a given gestational age. Given that this patient's fundal height does not appear to have increased over the past 4 weeks and that it is 3 centimeters less than expected, IUGR is of concern and this patient should be sent for an ultrasound to evaluate fetal size. This patient is unlikely to have an inaccurate estimated date of delivery (due date) (choice A) because her due date was determined by a 7-week ultrasound. Ultrasound dating of a pregnancy is more accurate the earlier in pregnancy that it is performed and a 7-week ultrasound is considered excellent for establishing a due date. Premature labor (choice C) would not be a concern in this patient with no contractions and no other symptoms. A twin gestation (choice D) should have been seen on the 7-week ultrasound. Furthermore, a fundal height that is less than the gestational age would predict makes twins less likely. Uterine cancer (choice E) is very uncommon during pregnancy and would not be expected to present as decreased fundal height.

The correct answer is: . Intrauterine growth restriction

**Question 180**

Not answered

Marked out of 1.00

A 24-year-old female and her husband come to the physician's office for evaluation of infertility. They have not been able to conceive after 12 months of frequent intercourse without contraception. She has no other medical problems and takes no medication. Physical examination shows an obese woman with excess thick hair over her chin and along the linea alba of the lower abdomen. There is no increase in muscles mass. When asked about the

excess hair, she states that she has had it for a long time. Serum testosterone levels are elevated. Which of the following is the most likely cause of her infertility?

Select one:

- ☐ . Impaired oocyte transport
- ☐ . Abnormal cervical mucus
- ☐ . Luteal phase defect
- ☐ . Impaired zygote implantation
- ☐ . Anovulation

Check

The patient described is most likely suffering from polycystic ovary syndrome (PCOS), which is characterized by anovulation, signs of androgen excess and ovarian cysts. PCOS results from abnormal GnRH secretion that stimulates the pituitary to secrete excessive luteinizing hormone (LH) and insufficient follicle stimulating hormone (FSH). Excess LH stimulates excess androgen production by ovarian theca cells resulting in hirsutism, male escutcheon, acne and androgenic alopecia. Anovulation is caused in part by imbalances LH and FSH production and in part by insulin resistance in these patients. Anovulation in this condition can be associated both with amenorrhea and irregular menses occasionally complicated by menometrorrhagia.

(Choice A) Abnormal cervical mucus can be a cause of infertility. In the setting of cervicitis, the mucus can become inflamed, thickened or modified in pH. All of these factors impede penetration of the cervical mucus by spermatozoa.

(Choices B & D) A luteal phase defect indicates poor preparation of the endometrium for implantation due to a progesterone deficiency. Following ovulation, progesterone is produced in increased amounts by the corpus luteum.

(Choice C) Impaired oocyte transport in the fallopian tube is commonly the result of previous pelvic inflammatory disease or endometriosis. Other uncommon causes of ciliary dysmotility may also play a role.

Educational objective:

PCOS is characterized by anovulation or oligo-ovulation, signs of androgen excess, such as male-pattern hair growth and acne, and ovarian cysts.

The correct answer is: . Anovulation

**Question 181**

Not answered

Marked out of 1.00

A 6-year-old girl states that she has had vaginal bleeding for the past 3 days. She is brought to the office by her worried mother. The mother states that the child has no medical problems and is not on any medications. She denies headache or visual changes. General physical examination is consistent with a normal 6-year-old female without breast budding. External genitalia are unremarkable with no pubic hair. Which of the following is the most likely diagnosis?

Select one:

- ☐ Ectopic pregnancy
- ☐ Molar pregnancy
- ☐ Vaginal foreign body
- ☐ Submucous leiomyoma
- ☐ Endometrial carcinoma

The most common cause of vaginal bleeding in a prepubertal girl is a vaginal foreign body (choice B). To confirm that this is the case requires visual inspection of the vagina by a speculum or a fiberoptic scope, usually under sedation. In this case, the lack of pubertal changes on examination (e.g., breast budding, pubic hair) makes precocious puberty unlikely and the absence of a cystic tissue (as in case 41) tends to rule out other possible causes of bleeding such as a tumor. Although an unlikely possibility in a 6-year-old, the ingestion of steroid contraceptives could stimulate the endometrium, resulting in bleeding; this possibility could be checked by obtaining a medical history.

The correct answer is: Vaginal foreign body

**Question 182**

Not answered

Marked out of 1.00

A 29-year-old woman comes to the emergency department because of constant, severe lower abdominal pain. She also complains of fever and chills. Three weeks ago she had an intrauterine device (IUD) placed for contraception. Her temperature is 38.3 C (101 F), blood pressure is 110/76 mm Hg, pulse is 110/min, and respirations are 16/min. She has bilateral lower quadrant abdominal tenderness. On pelvic examination, she has cervical motion tenderness and bilateral adnexal tenderness. A urinalysis is negative. A pelvic ultrasound is negative, with normal uterus and adnexae and no free fluid. What is the most likely diagnosis?

Select one:

- ☐ Pelvic inflammatory disease (PID)
- ☐ Ovarian torsion
- ☐ Appendicitis
- ☐ Hemorrhagic ovarian cyst
- ☐ Pyelonephritis

Check

Pelvic inflammatory disease (PID) is an infection of the upper genital tract. It most often starts as a vaginal or cervical infection that then extends along the endometrium and eventually involves the fallopian tubes, adnexae, and parametrial tissues. In some cases it may involve the liver and diaphragm by causing perihepatic inflammation and adhesions (Fitz-Hugh-Curtis syndrome). Patients often present with systemic illness, complaining of fever, chills, and myalgias, as well as with lower abdominal pain. To make the diagnosis, the patient should have the triad of abdominal tenderness, cervical motion tenderness, and adnexal tenderness. Along with this triad, the patient should also have a fever ( $>38^{\circ}\text{C}$ ), leukocytosis ( $>11,000/\text{mm}^3$ ), or an adnexal mass. This patient clearly meets these diagnostic criteria. Also, this patient had an IUD placed recently, which is a well-established risk factor for PID.

Appendicitis (choice A) is a possible diagnosis here. However, it is not the most likely diagnosis given the patient's history and physical. Appendicitis often starts with periumbilical pain that becomes severe at McBurney's point. It is usually characterized by nausea, vomiting, and decreased appetite. On examination, the patient with appendicitis may have an elevated temperature, tenderness at McBurney's point, and cervical motion tenderness. Laboratory studies will often demonstrate an elevated white blood cell count. This patient, with her bilateral pain and tenderness, as well as her recent history of IUD placement, is more likely to have PID.

A hemorrhagic ovarian cyst (choice B) can often present with abdominal pain and peritoneal signs. However, the pain is often of sudden onset as the cyst ruptures. Furthermore, ultrasound will reveal a cyst or free fluid in the pelvis, if the cyst has completely ruptured and drained.

Ovarian torsion (choice C) presents with severe abdominal pain, often along with nausea, vomiting, diaphoresis, and an acute abdomen. Torsion occurs when an adnexal mass causes the adnexa to twist on its pedicle, compromising the blood supply. In an adult, ovarian torsion is extremely unlikely when there is no adnexal mass present.

Pyelonephritis (choice E) usually presents with urinary complaints and back or flank pain, along with fever and chills. This patient has no urinary complaints, no costovertebral angle tenderness on examination, and a negative urinalysis.

The correct answer is: Pelvic inflammatory disease (PID)

**Question 183**

Not answered

Marked out of 1.00

A 29-year-old G0 comes to your office complaining of a vaginal discharge for the past 2 weeks. The patient describes the discharge as thin in consistency and of a grayish white color. She has also noticed a slight fishy vaginal odor that seems to have started with the appearance of the discharge. She denies any vaginal or vulvar pruritus or burning. She admits to being sexually active in the past, but has not had intercourse during the past year. She denies a history of any sexually transmitted diseases. She is currently on no medications with the exception of her birth control pills. Last month she took a course of amoxicillin for treatment of a sinusitis. On physical examination, the vulva appears normal. There is a discharge present at the introitus. A copious, thin, whitish discharge is in the vaginal vault and adherent to the vaginal walls. The vaginal pH is 5.5. The cervix is not inflamed and there is no cervical discharge. Wet smear of the discharge indicates the presence of clue cells. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Candidiasis
- ☐ . Trichomoniasis
- ☐ . Physiologic discharge
- ☐ . Bacterial vaginosis
- ☐ . Chlamydia

(Katz, pp 588-590. Beckmann, pp 268-271.) Bacterial vaginosis is a condition in which there is an overgrowth of anaerobic bacteria in the vagina, displacing the normal lactobacillus. Women with this type of vaginitis complain of an unpleasant vaginal odor that is described as musky or fishy and a thin, gray-white vaginal discharge. Vulvar irritation and pruritus are rarely present. To confirm the diagnosis of bacterial vaginosis, a wet smear is done. To perform a wet smear, saline is mixed with the vaginal discharge and clue cells are identified. Clue cells are vaginal epithelial cells with clusters of bacteria adherent to their surfaces. In addition, a whiff test can be performed by mixing potassium hydroxide with the vaginal discharge. In cases of bacterial vaginosis, an amine-like (ie, fishlike) odor will be detected. The treatment of choice for bacterial vaginosis is metronidazole (Flagyl) 500 mg given twice daily for 7 days. Pregnant women with symptomatic bacterial vaginosis (BV) should be treated the same way as nonpregnant women with BV. In cases of

a normal or physiologic discharge, vaginal secretions are white and odorless. In addition, normal vaginal secretions do not adhere to the vaginal side walls. In cases of candidiasis, patients commonly complain of vulvar burning, pain, pruritus, and erythema. The vaginal discharge tends to be white, granular, and adherent to the vaginal walls. A wet smear with potassium hydroxide can confirm the diagnosis by the identification of hyphae. Treatment of candidiasis can be achieved with the administration of topical imidazoles or triazoles or the oral medication Diflucan. Trichomonas vaginitis is the most common nonviral, nonchlamydial sexually transmitted disease of women. It is caused by the anaerobic, flagellated protozoan *T. vaginalis*. Women with Trichomonas vaginitis commonly complain of a copious vaginal discharge that may be white, yellow, green, or gray and that has an unpleasant odor. Some women complain of vulvar pruritus, which is primarily confined to the vestibule and labia minora. On physical examination, the vulva and vagina frequently appear red and swollen. Only a small percentage of women possess the classically described strawberry cervix. Diagnosis of trichomoniasis is confirmed with a wet saline smear. Under the microscope, the Trichomonas organisms can be visualized; these organisms are unicellular protozoans that are spherical in shape with three to five flagella extending from one end. The recommended treatment for trichomoniasis is a one-time dose of metronidazole 2 g PO. *C. trachomatis* is an intracellular parasite that can cause an infection that may be manifested as cervicitis, urethritis, or salpingitis. Patients with chlamydial infections may be asymptomatic. On physical examination, women with chlamydial infections may demonstrate a mucopurulent cervicitis. The diagnosis of chlamydia is suspected on clinical examination and confirmed with cervical cultures. Treatment for a chlamydial cervicitis is with oral azithromycin 1 g or doxycycline 100 mg twice daily for 7 days.

The correct answer is: . Bacterial vaginosis

**Question 184**

Not answered

Marked out of 1.00

A 17-year-old teenage girl presents to your office with a 10-month history of lower abdominal pain that radiates to the upper thighs and back. The pain is colicky in nature and usually starts a few hours prior to menses, lasting 3-4 days. Menses have occurred at regular 28-day intervals over the past 2 years. She has no inter-menstrual bleeding. She became sexually active 6-months ago and does not use contraception. Physical examination shows healthy external genitalia and well-developed secondary sexual characteristics; the uterus is normal in size and freely mobile. Examination shows no other abnormalities. Which of the following is the most likely cause of her pelvic pathology?

Select one:

- ☐ . Increased prostaglandins
- ☐ . Ectopic endometrial implants

- ☐ . Ureteric stone
- ☐ . Pelvic infection
- ☐ . Abnormal myometrial growth

Check

Lower abdominal pain that radiates to the thighs and back and begin hours before menstruation is classic for primary dysmenorrhea. In primary dysmenorrhea, the release of prostaglandins during the breakdown of the endometrium is believed to be the cause of symptoms. Women with primary dysmenorrhea have higher levels of prostaglandins than normal. These levels can be reduced with NSAIDs, which are the most effective treatment for this condition.

(Choice A) Ureteric stones have no relation to menstruation.

(Choice B) Pelvic inflammatory disease is very unlikely in the absence of fever, cervical motion tenderness, adnexal tenderness, and vaginal discharge.

(Choice C) Patients with uterine fibroids typically complain of heavy periods and have an enlarged uterus.

(Choice E) Signs and symptoms of endometriosis may include dysmenorrhea, dyspareunia, tender pelvic nodes, a fixed retroverted uterus, and infertility.

Educational objective:

Primary dysmenorrhea is caused by increased levels of prostaglandins and presents with lower abdominal pain that occurs with menstruation. NSAIDs and oral contraceptive pills can be used to improve symptoms.

The correct answer is: . Increased prostaglandins

### Question 185

Not answered

Marked out of 1.00

A 36-year-old G1P0 at 35 weeks gestation presents to labor and delivery complaining of a several-day history of generalized malaise, anorexia, nausea, and emesis. She denies any headache or visual changes. Her fetal movement has been good, and she denies any regular uterine contractions, vaginal bleeding, or rupture of membranes. On physical examination, you notice that she is mildly jaundiced and appears to be a little confused. Her vital signs indicate a temperature of 37.7C (99.9F), pulse of 70 beats per minute, and blood pressure of 100/62 mm Hg. Blood is drawn and the following results are obtained: WBC = 25,000, Hct = 42.0, platelets = 51,000, SGOT/PT= 287/350, glucose = 43, creatinine = 2.0, fibrinogen = 135, PT/PTT = 16/50 s, serum ammonia level = 90 mmol/L (nl = 11-35). Urinalysis is positive for 3+ protein and large ketones. Which of the following is the most likely diagnosis?



Select one:

- ☐ . Hepatitis B
- ☐ . Hyperemesis gravidarum
- ☐ . Severe preeclampsia
- ☐ . Acute fatty liver of pregnancy
- ☐ . Intrahepatic cholestasis of pregnancy

Check

(Cunningham, pp 1127-1129.) Acute fatty liver of pregnancy is a rare complication of pregnancy. Estimates of its incidence range from 1 in 7000 to 1 in 15,000 pregnancies. This disorder is usually fatal for both mother and baby. Recently it has been suggested that recessively inherited mitochondrial abnormalities of fatty acid oxidation predispose a woman to fatty liver in pregnancy. This disorder usually manifests itself late in pregnancy and is more common in nulliparous women. Typically, a patient will present with a several-day or -week history of general malaise, anorexia, nausea, emesis, and jaundice. Liver enzymes are usually not elevated above 500. Indications of liver failure are present, manifested by elevated PT/PTT, bilirubin, and ammonia levels. In addition, there is marked hypoglycemia. Low fibrinogen and platelet levels occur secondary to a consumptive coagulopathy. In cases of viral hepatitis, serum transaminase levels are usually much higher and marked hypoglycemia or elevated serum ammonia levels would not be seen. Sometimes the HELLP syndrome can initially be difficult to differentiate from acute fatty liver, but in this case the patient has a normal blood pressure. In addition, hepatic failure is not characteristic of severe preeclampsia. Hyperemesis gravidarum is characterized by nausea and vomiting unresponsive to simple therapy. It usually occurs early in the first trimester and resolves by about 16 weeks. In some cases, there can be a transient hepatic dysfunction. Intrahepatic cholestasis of pregnancy is characterized by pruritus and/or icterus. Some women develop cholestasis in the third trimester secondary to estrogen-induced changes. There is an accumulation of serum bile salts, which causes the pruritus. Liver enzymes are seldom elevated above 250 U/L.

The correct answer is: . Acute fatty liver of pregnancy



**Question 186**

Not answered

Marked out of 1.00

A 23-year-old G3P1011 at 6 weeks presents for routine prenatal care. She had a cesarean delivery 3 years ago for breech presentation after a failed external cephalic version. Her daughter is Rh-negative. She also had an elective termination of pregnancy 1 year ago. She is Rh-negative and is found to have a positive anti-D titer of 1:8 on routine prenatal labs. Failure to administer RhoGAM at which time is the most likely cause of her sensitization?

Select one:

- ☐ . After elective termination
- ☐ . Within 3 days of delivering a Rh-negative fetus
- ☐ . At the time of external cephalic version
- ☐ . At the time of cesarean delivery
- ☐ . At 28 weeks in the pregnancy for which she had a cesarean delivery

(ACOG, Practice Bulletin 4. Beckmann, pp 136-137.) To prevent maternal Rh sensitization, pregnant women who are Rh-negative should receive RhoGAM or Rh immune globulin (antibody to the D antigen) in the following situations: after a spontaneous or induced abortion, after an ectopic pregnancy, at the time of an amniocentesis/ CVS/PUBS, at 28 weeks gestational age, within 3 days of a delivery of an Rh-positive fetus, at the time of external cephalic version, with second- or third-trimester antenatal bleeding, and in the setting of abdominal trauma.

The correct answer is: . After elective termination

**Question 187**

Not answered

Marked out of 1.00

Three days ago you delivered a 40-year-old G1P1 by cesarean section following arrest of descent after 2 hours of pushing. Labor was also significant for prolonged rupture of membranes. The patient had an epidural, which was removed the day following delivery. The nurse pages you to come to see the patient on the postpartum floor because she has a fever of 38.8C (102F) and is experiencing shaking chills. Her blood pressure is 120/70 mm Hg and her pulse is 120 beats per minute. She has been eating a regular diet without difficulty and had a normal bowel movement this morning. She is attempting to breast-feed, but says her milk has not come in yet. On physical examination, her breasts are mildly engorged and tender bilaterally. Her lungs are clear. Her abdomen is tender over the fundus, but no rebound is present. Her incision has some serous drainage at the right apex, but no erythema is noted. Her pelvic examination reveals uterine tenderness but no masses.

Which of the following is the most likely diagnosis?

Select one:

- ☐ . Endometritis
- ☐ . Atelectasis
- ☐ . Pelvic abscess
- ☐ . Septic pelvic thrombophlebitis
- ☐ . Wound infection

Check

(Beckmann, pp 148-152. Cunningham, pp 712-715.) Metritis, or infection of the uterus, is the most common infection that occurs after a cesarean section. A long labor and prolonged rupture of membranes are predisposing factors for metritis. In the presence of a pelvic abscess, usually signs of peritoneal irritation such as rebound tenderness, ileus, and decreased bowel sounds are present. Wound infections occur with an incidence of about 6% following cesarean deliveries. Fever usually begins on the fourth or fifth postoperative day, and erythema around the incision along with pus drainage is often present. In the case of a wound infection, first-line treatment involves draining the incision. Atelectasis can be a cause of postoperative fever, but the fever occurs generally in the first 24 hours. In addition, on physical examination, atelectasis is generally accompanied by decreased breath sounds at the lung bases on auscultation. It more commonly occurs in women who have had general anesthesia, not an epidural like the patient described here. Septic pelvic thrombophlebitis occurs uncommonly as a sequela of pelvic infection. Venous stasis occurs in dilated pelvic veins; in the presence of bacteria, it can lead to septic thromboses. Diagnosis is usually made when persistent fever spikes occur after treatment for metritis. The patient usually has no uterine tenderness, and bowel function tends to be normal. Treatment is with intravenous heparin.

The correct answer is: . Endometritis

### Question 188

Not answered

Marked out of 1.00

You examine a 28-year-old woman who is 2 days status post-cesarean delivery for a nonreassuring fetal heart rate tracing in labor. Her prenatal course was complicated by her developing acute tuberculosis in the days immediately before her delivery. When you diagnosed her with tuberculosis, she decided to hold off on therapy until after the baby was born. She was also found to be Group B Streptococcus-positive on a 36-week vaginal culture. She has a past medical history significant for chronic hepatitis B. Her

past surgical history is significant for a breast reduction 4 years ago. Postpartum she is doing well, with no complaints, normal vital signs, and a normal postpartum physical examination. She wants to know if she is able to breast feed her infant. Which of the following conditions precludes this patient from breastfeeding?

Select one:

- ☐ . Untreated tuberculosis
- ☐ . Status-post cesarean delivery
- ☐ . Status-post breast reduction
- ☐ . Chronic hepatitis B
- ☐ . Group B Streptococcus colonization

Check

Breastfeeding is a normal and natural function that provides numerous benefits to the mother and child. Mothers who breast feed have less postpartum blood loss and improved infant attachment, as well as a decreased risk of ovarian and premenopausal breast cancer. Regarding the infant, there is strong evidence that breastfed infants have decreased rates of diarrhea, respiratory infections, otitis media, bacterial meningitis, botulism, urinary tract infections, and necrotizing enterocolitis. Breastfeeding is also associated with increased intelligence. Some studies suggest that breastfeeding protects against sudden infant death syndrome (SIDS), insulin-dependent diabetes mellitus (IDDM), Crohn's disease, ulcerative colitis, allergic diseases, and lymphoma. There are few women who cannot breast feed. Women in whom breastfeeding is contraindicated are those who:

Unfortunately, this patient has active, untreated pulmonary tuberculosis. In this case she should not be allowed to breast feed or bottle feed her infant because such close and prolonged contact increases the risk of infection in the neonate. The mother should not breast feed until she has been treated for 2 full weeks. Pumped breast milk may be given to the neonate because it does not contain *Mycobacterium tuberculosis*.

Chronic hepatitis B (choice A) does not represent a contraindication to breastfeeding. Women with hepatitis A, hepatitis B, or hepatitis C should be allowed to breast feed.

Group B Streptococcus colonization (choice B) is not a contraindication to breastfeeding. Approximately 30% of all pregnant women are Group B Strep-positive and these women should be treated with penicillin (or an alternative agent if penicillin-allergic) during labor and delivery.

Patients who are status-post breast reduction (choice C) should attempt to breastfeed. Some women who have had breast reduction surgery are able to successfully breastfeed. Whether or not breastfeeding is successful depends upon the exact nature of the breast reduction surgery.

Patients who are status-post cesarean delivery (choice D) should be encouraged to breast feed. Breastfeeding can be difficult in the early days after a cesarean, but it is certainly not contraindicated.

The correct answer is: . Untreated tuberculosis

**Question 189**

Not answered

Marked out of 1.00

A 64-year-old woman comes to the physician because she is "leaking" urine. She states that, over the past 3 years, she has had incontinence several times daily. She describes these episodes as small squirts of urine that come out whenever she laughs, coughs, sneezes, or engages in physical activity. Physical examination shows mild uterine prolapse and a moderate cystocele. Urine culture is negative. Postvoid residual is 25 ml (normal <50 mL). Cystometrogram is normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ Genuine stress urinary incontinence (GSUI)
- ☐ Urinary tract infection
- ☐ Neurogenic bladder
- ☐ Pyelonephritis
- ☐ Detrusor instability (DI)

Genuine stress urinary incontinence (GSUI) is caused by a change in the normal angle between the bladder and urethra such that urine is lost when there is an increase in intra-abdominal pressure (such as with physical activity, sneezing, and coughing). Physical examination often reveals pelvic organ prolapse, although it may be normal. The postvoid residual (the amount of urine left in the bladder after voiding) and cystometrogram are normal. Noninvasive treatments include Kegel exercises, behavior modification, and, for postmenopausal women, estrogen cream. Invasive therapy includes several surgical options.

Detrusor instability (DI; choice A) is characterized by sudden urgency followed by a medium-to-large loss of urine. It is caused by uninhibited bladder contraction. A cystometrogram will often demonstrate bladder contractions.

Neurogenic bladder (choice C) is characterized by a high postvoid residual, as the patient is unable to fully empty the bladder. This patient has a normal postvoid residual.

Pyelonephritis (choice D) is characterized by fevers, chills, back or flank pain, and costovertebral angle tenderness on examination. This patient has none of these findings.

Urinary tract infection (choice E) is characterized by frequency, urgency, and dysuria. This patient has none of these findings and a negative urine culture.

The correct answer is: Genuine stress urinary incontinence (GSUI)

**Question 190**

Not answered

Marked out of 1.00

A 59-year-old woman who had been diagnosed with infiltrating ductal carcinoma 2 years prior presents with pain of her right breast. The breast is swollen, tender on palpation, and is diffusely indurated with a “peau d’orange” appearance. Multiple axillary lymph nodes are palpable in the lower axilla. A skin biopsy from her breast reveals extensive invasion of dermal lymphatics. What is the best diagnosis?

Select one:

- ☐ . Angiosarcoma
- ☐ . Duct ectasia
- ☐ . Sclerosing adenosis
- ☐ . Inflammatory carcinoma
- ☐ . Comedocarcinoma

(Kumar, pp 1089-1091. Rubin, pp 852-854.) The French term peau d’orange (“orange skin”) describes the appearance of the breast in an individual with inflammatory breast cancer. This clinical term is often misunderstood because of the qualifying adjective inflammatory. The term does not refer to the presence of inflammatory cells, abscess, or any special histologic-type of breast carcinoma; rather, it refers to more of a clinical phenomenon, in that the breast is swollen, erythematous, and indurated and demonstrates a marked increase in warmth. These changes are caused by widespread lymphatic and vascular permeation within the breast itself and in the deep dermis of the overlying skin by breast carcinoma cells. The clinical induration and erythema are presumably related to lymphatic-vascular blockage by tumor cells; if present, these findings mean a worse prognosis.

The correct answer is: . Inflammatory carcinoma

**Question 191**

Not answered

Marked out of 1.00

A 31-year-old woman comes to the physician because she has not had a menstrual period for 7 months. She previously had normal cycles. She also states that over the past year she has felt increasingly weak and tired. She notes that she always feels cold and that her hair has been thinning over the course of the year. She also complains of constipation, weight gain, and depression. Her temperature is 36.7 C (98 F), blood pressure is 100/60 mmHg, pulse is 56/minute, and respirations are 10/minute. Examination is significant for brittle hair and delayed deep tendon reflexes. Urine human chorionic gonadotropin (hCG) is negative. Thyroid stimulating hormone (TSH) is 20 µU/mL. Prolactin is normal. Which of the following is the most likely

cause of this patient's amenorrhea?

Select one:

- ☐ . Kallmann syndrome
- ☐ . Polycystic ovarian syndrome
- ☐ . Hypothyroidism
- ☐ . Pregnancy
- ☐ . Hyperprolactinemia

Check

Secondary amenorrhea is defined as the absence of menses for 6 cycle intervals or 12 months in a woman who previously had regular cycles. This patient, therefore, has secondary amenorrhea. She also has a constellation of signs and symptoms that are highly suggestive of hypothyroidism. Patients with hypothyroidism often complain of some combination of weakness, fatigue, cold intolerance, constipation, weight gain, depression, or thinning of the hair. Physical examination can reveal bradycardia and low blood pressure. Laboratory evaluation often shows an elevated TSH as the pituitary attempts to stimulate the underfunctioning thyroid. However, many patients with hypothyroidism will be asymptomatic and the thyroid abnormality is found by thyroid function tests. Hypothyroidism likely leads to amenorrhea through changes in GnRH production. Treatment with thyroid replacement will often return these patients to regular menses.

Hyperprolactinemia (choice A) is the cause of secondary amenorrhea in approximately 20% of cases. This patient, however, has a normal prolactin level. Kallmann syndrome (choice C) is a rare cause of primary amenorrhea. This syndrome is characterized by gonadotropin deficiency, anosmia or hyposmia, cleft lip or palate, and minimal sexual development. This patient does not have primary amenorrhea. Polycystic ovarian syndrome (choice D) is often characterized by obesity, hirsutism, infertility, and oligomenorrhea. Thyroid dysfunction is not part of this syndrome. Pregnancy (choice E) is, by far, the most common cause of secondary amenorrhea. This patient has a negative urine hCG.

The correct answer is: . Hypothyroidism

**Question 192**

Not answered

Marked out of 1.00

A 24-year-old woman comes to the physician for an initial prenatal visit. Her last menstrual period was 7 weeks ago and a home urine pregnancy test was positive. She has had no bleeding or abdominal pain. She does complain of increased fatigue lately and some mild nausea and vomiting. Examination is significant for both a systolic and a diastolic cardiac murmur. The uterus is 8 weeks' sized and nontender. Which of the following findings is most suggestive of structural heart disease in this woman?

Select one:

- ☐ . Enlarged uterus
- ☐ . Fatigue
- ☐ . Nausea and vomiting
- ☐ . Diastolic murmur
- ☐ . Systolic murmur

Pregnancy brings about numerous, normal physiologic changes in the pregnant woman. Some of the most obvious changes are those found in the cardiovascular system. For example, cardiac output rises markedly in pregnancy with increases up to 50% over nonpregnant levels. Cardiac murmurs are common in pregnancy with as many as 90% of all pregnant women having some degree of a systolic murmur. Diastolic murmurs are different, however. The finding of a diastolic murmur in a pregnant woman must be thoroughly evaluated as this type of murmur is often related to important cardiac disease. For example, mitral stenosis, the most common rheumatic valvular lesion in pregnancy, is characterized by a rumbling diastolic murmur. Therefore, patients with diastolic murmurs should have an echocardiograph and possible referral to a cardiologist for further evaluation. An enlarged uterus (choice B) is a normal finding in a pregnant woman. It is important to examine the uterus for size at the first prenatal visit to ensure that the size correlates to the patient's dating by last menstrual period. If there is a discrepancy, then the patient should be sent for an ultrasound to obtain correct dating, which is essential for the management of the pregnancy. Fatigue (choice C) and nausea and vomiting (choice D) are very common findings in the first trimester of pregnancy. While fatigue can sometimes be a symptom of structural heart disease, it is not nearly as concerning as the diastolic murmur in this patient. Nausea and vomiting is present in anywhere from 50 to 90% of all



pregnant women. As noted above, a systolic murmur (choice E) is a very common finding during pregnancy. Up to 90% of all pregnant women will have such a murmur during pregnancy. As long as the murmur is systolic, no louder than III/VI and there is no other symptomatology, the murmur can be considered to be benign.

The correct answer is: . Diastolic murmur

**Question 193**

Not answered

Marked out of 1.00

A 35-year-old African-American marathon runner presents to the gynecologist complaining of secondary amenorrhea that developed three months ago. Her cycles are normally 28 days long, and her menses last three to five days with moderate flow. One year ago, the woman adopted a vigorous exercise regimen that lasted between three and five hours every day. Since then, her BMI has declined from 23.4 to 16.5 Kg/m<sup>2</sup>. She has been winning many local races and is considering increasing the difficulty of her exercise regimen, but would like to address the issue of her amenorrhea first. Physical examination reveals a thin woman with well-defined musculature but is otherwise unremarkable. Pregnancy test is negative. What is the most likely etiology of her amenorrhea?

Select one:

- ☐ . Kwashiorkor
- ☐ . Prolactin excess
- ☐ . Estrogen deficiency
- ☐ . Progesterone deficiency
- ☐ . Testosterone deficiency

Check

Amenorrhea is thought to occur in female athletes when there is a relative caloric deficiency secondary to inadequate nutritional intake as compared to the amount of energy expended. Women athletes with this condition have been shown to have decreased levels of luteinizing hormone (LH) and gonadotropin-releasing hormone (GnRH), resulting in an estrogen deficiency. These amenorrheic women are therefore at increased risk for all conditions associated with estrogen deficiency, including infertility, vaginal atrophy, breast atrophy, and osteopenia.

(Choice A) Kwashiorkor is a malnutrition disease caused by severe protein deficiency. This condition primarily occurs in children upon weaning from the breast, and is not the cause of amenorrhea in this woman.

(Choice B) Testosterone deficiency occurs in disorders such as Klinefelter's syndrome and cryptorchidism. It is not the cause of amenorrhea in this woman.

(Choice D) Progesterone is an important hormone in the middle to late luteal phase of the menstrual cycle and also serves in the maintenance of pregnancy. A deficiency in this hormone is not the cause of amenorrhea in this woman.

(Choice E) High serum levels of prolactin can occur in pregnant or breastfeeding women or as the result of a prolactinoma. It is an extremely unlikely cause of amenorrhea in this woman.

Educational Objective:

Secondary amenorrhea is relatively common in elite female athletes and results from estrogen deficiency.

The correct answer is: . Estrogen deficiency

**Question 194**

Not answered

Marked out of 1.00

A 14-year-old girl comes to the office for a health maintenance evaluation. She is concerned that she has not yet started her menstrual cycle. Her height has increased by 3 inches since her last visit 1 year ago, and her weight is up by 10 pounds. On physical examination, the physician notes a general enlargement of her breasts and areola. Examination of her genital area reveals pubic hair that is coarse and dark and extends past the medial border of the labia. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Secondary amenorrhea
- ☐ . Primary amenorrhea
- ☐ . Dysmenorrhea
- ☐ . Dysfunctional uterine bleeding
- ☐ . Constitutional delay

Constitutional delay is normal pubertal progression at a delayed rate or onset. The average age at menarche is 12 1/2 years, but it may be delayed until 16 or may begin as early as age 10. Dysfunctional uterine bleeding (choice B) results when the endometrium has proliferated under estrogen stimulation, and then begins to slough and causes irregular painless bleeding. This is common in younger adolescents who have not been menstruating long. Dysmenorrhea (choice C) is pain associated with menstrual cycles, and this adolescent is not menstruating yet. Primary amenorrhea (choice D) is a delay in menarche with no menstrual cycles or secondary sex characteristics by 14 years of age or no menses with secondary sex characteristics by 16 years of age. This adolescent has secondary characteristics but is not yet 16 years of age. Secondary amenorrhea (choice E) is the absence of menses for at least three cycles after regular cycles have been present.

The correct answer is: . Constitutional delay

**Question 195**

Not answered

Marked out of 1.00

A 53-year-old woman comes to the physician because of concerns regarding menopause. She has a period almost every month, but her cycle is lengthening. She is worried because her mother, her two older sisters, and practically all her aunts have osteoporosis. She does not want to be on estrogen because she is concerned about cancer and thrombosis. Physical

examination is within normal limits. The patient is started on raloxifene. On this medication, which of the following is this patient most likely to develop?

Select one:

- ☐ . Osteoporosis
- ☐ . Elevated cholesterol
- ☐ . Breast cancer
- ☐ . Endometrial hyperplasia
- ☐ . Hot flashes

Check

Raloxifene is a medication that belongs to the class of drugs called selective estrogen receptor modulators (SERMs). These drugs, of which the most widely known are raloxifene and tamoxifen, have pro-estrogenic effects in some tissues and anti-estrogenic effects in other tissues. Raloxifene has been approved by the U.S. Food and Drug Administration for the prevention of osteoporosis. This patient, with her strong family history of osteoporosis, is a good candidate for prevention. However, although raloxifene acts as an estrogen agonist in the bone, it appears to have no effect on hot flashes or to actually cause hot flashes. Therefore, this perimenopausal patient is most likely to develop hot flashes while on raloxifene. Although definitive proof is not available, it appears that raloxifene acts as an estrogen antagonist in the breast. Therefore, this patient would not be most likely to develop breast cancer (choice A) while on raloxifene. She would be more likely to develop hot flashes. Raloxifene appears to lower cholesterol, especially LDL cholesterol, in patients. Therefore, elevated cholesterol (choice B) would be less likely while on this medication. Raloxifene appears to act as an estrogen antagonist at the level of the endometrium; therefore, endometrial hyperplasia (choice C) would be less likely than hot flashes. Raloxifene is used in the prevention of osteoporosis (choice E).

The correct answer is: . Hot flashes

**Question 196**

Not answered

A 42-year-old woman comes to the physician because of vaginal itch and discharge, dysuria, and dyspareunia. These symptoms have been steadily worsening over the past 3 days. Pelvic examination reveals an erythematous

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vagina and a thin, green, frothy vaginal discharge with a pH of 6. Microscopic examination of the discharge demonstrates the presence of a pear-shaped, motile organism. Which of the following is the most likely pathogen?

Select one:

- ☐ Gardnerella vaginalis
- ☐ Herpes simplex virus
- ☐ Treponema pallidum
- ☐ Candida albicans
- ☐ Trichomonas vaginalis

Check

This patient has the symptoms and signs most consistent with a *Trichomonas vaginalis* infection. Patients with *T. vaginalis* typically experience vaginal itch and discharge, dysuria, frequency and urgency of urination, and dyspareunia. However, a significant minority (around 20%) of patients infected with *T. vaginalis* will be asymptomatic. The key finding to diagnose the infection is the presence of motile, pearshaped, flagellated organisms on the normal saline, wet-mount smear preparation. These organisms will be smaller than the surrounding vaginal epithelial cells but larger than white blood cells. The treatment for *T. vaginalis* is metronidazole.

*Candida albicans* (choice A) is a common cause of vaginitis. We know from the findings, however, that this patient does not have a *Candida* infection. Her discharge is not consistent with *Candida* infection. *Candida* typically causes a thick, white ("cottagecheese") discharge with a pH of 4 to 5. Also, microscopic examination demonstrates the organism *T. vaginalis* and not the pseudohyphae seen with a *Candida* infection.

*Gardnerella vaginalis* (choice B) is a common organism in bacterial vaginosis, in association with increased levels of anaerobic bacteria. The discharge in bacterial vaginosis can appear similar to that caused by *T. vaginalis*. However, bacterial vaginosis is usually characterized by a strong odor, and irritation of the vaginal epithelium is usually not seen. Furthermore, this patient has an identifiable organism on wet-mount.

Herpes simplex virus (choice C) infection is characterized by vesicles and ulcers and an extremely tender vulva and vaginal area. This patient has no vesicles or ulcers and has an obvious organism on wet-mount.

*Treponema pallidum* (choice D) is the organism that causes syphilis. Primary infection with *T. pallidum* is characterized by a painless chancre on the vulva, vagina, or cervix. The organism is identified on dark-field microscopy and not wet-mount preparation.

The correct answer is: *Trichomonas vaginalis*

**Question 197**

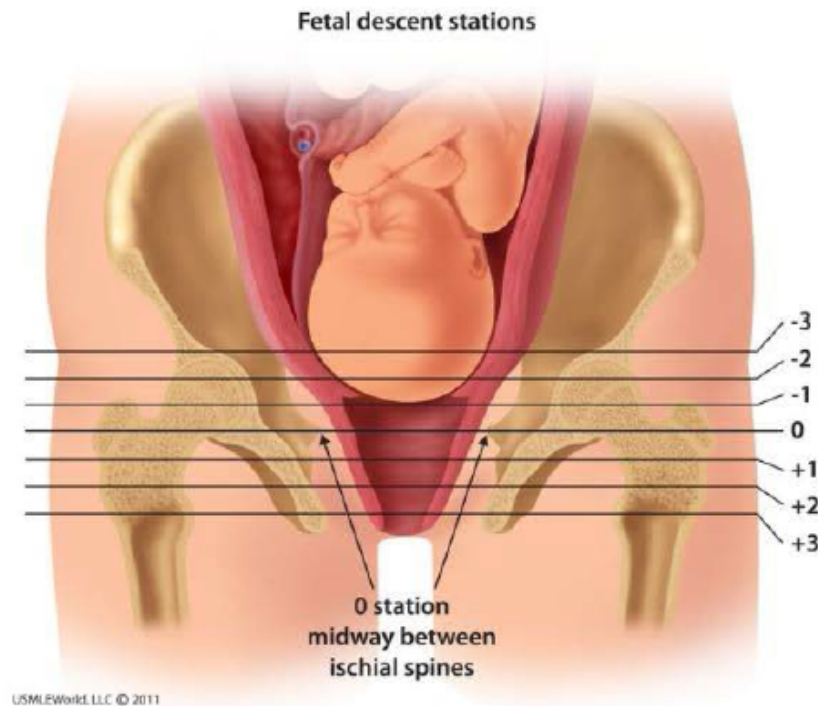
Not answered

Marked out of 1.00

A 32-year-old G3P2 woman at 38 weeks gestation is admitted to the hospital for labor pains. Her prenatal course, prenatal tests, and fetal growth have been normal. Ultrasound at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. In her second pregnancy, she underwent a cesarean section. The woman is admitted to the delivery room and fetal heart and uterine contraction monitoring is started. Her blood pressure is 100/60 mm Hg, pulse is 115/min, and respirations are 26/min. Pelvic examination shows that the cervix is 60% effaced and 6 cm dilated. Uterine contractions are regular and occur every 4 minutes. Fetal heart tracing shows no abnormalities. The patient suddenly complains of intense lower abdominal pain. She is restless and vaginal bleeding is noted. Fetal heart monitoring shows repetitive variable decelerations, and the fetus has shifted from 0 to -2 station. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Vasa previa
- ☐ . Normal delivery
- ☐ . Endometritis
- ☐ . Placental abruption
- ☐ . Uterine rupture



This patient most likely has had a uterine rupture due to the uterine scar from her prior cesarean section. Seventy percent of uterine ruptures are associated with fetal heart rate abnormalities. Uterine rupture presents with intense abdominal pain associated with vaginal bleeding. Hyperventilation, agitation, and tachycardia usually indicate an imminent rupture. After the rupture has occurred, the patient may feel slightly relieved, but soon after, the pain returns in a more diffuse fashion. The presenting part may retract; loss of fetal station is a red flag for uterine rupture. The fetal occiput may no longer be palpable on pelvic examination and the fetal limbs can become palpable on abdominal examination. Delivery by emergency cesarean section is indicated as the mother can readily exsanguinate from uterine rupture, leading to both maternal and fetal death.

The chance of uterine rupture after a prior low transverse cesarean section is less than 1 %. If this patient had history of a prior classical (vertical) uterine scar, the risk of rupture could have been as high as 9%.

(Choice A) In placental abruption, fetal station will not change. Common associations include hypertension and cocaine use.

(Choice B) In vasa previa there are no maternal symptoms. Fetal heart rate pattern is often sinusoidal, which is ominous.

(Choice D) Endometritis typically occurs in the postpartum period and is characterized by fever, a tender uterus, foul-smelling lochia, and progression to sepsis if not treated early.

(Choice E) Bladder distention can occur in the postpartum period from trauma to the base of the bladder, which interferes with normal voiding.

(Choice F) Normal delivery is not associated with retraction of the fetal presenting parts. It is associated with early decelerations on the fetal heart rate tracing as a result of compression of the fetal head by the contracting uterus .

Educational objective:

Sudden onset of abdominal pain, fetal heart rate abnormalities, and recession of the presenting part during active labor indicate probable uterine rupture. Risk factors include a pre-existing uterine scar or abdominal trauma.

The correct answer is: . Uterine rupture

### Question 198

Not answered

Marked out of 1.00

A 24-year-old woman delivered a healthy baby by vaginal delivery at 36 weeks gestation. She had a prolonged premature rupture of the membranes, and mid forceps application was required during delivery. On the second postpartum day she complained of fever and chills. She cannot breast-feed because her "nipples are tender". Her temperature is 38.5 C (101.3 F), blood pressure is 120/55 mmHg and pulse is 92/min. Bimanual examination shows tender uterus and foul-smelling lochia. Her nipples are cracked but without surrounding erythema or warmth. Physical examination otherwise shows no abnormalities. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Aspiration pneumonia
- ☐ . Deep venous thrombosis
- ☐ . Normal postpartum
- ☐ . Puerperal mastitis
- ☐ . Endometritis

Check

The patient described is experiencing postpartum endometritis. A puerperal infection should be suspected if a woman experiences a fever greater than 38 C ( 100.4 F) outside of the first 24 hours postpartum. Risk factors for endometritis include, but are not limited to prolonged rupture of the membranes (> 24 hours), prolonged labor (> 12 hours), cesarean section and use of intrauterine pressure catheters or fetal scalp electrodes. This patient has at least two of these risk factors. Clinically, endometritis is characterized by fever, uterine tenderness, foul smelling lochia and leukocytosis. Broad spectrum antibiotics are required to treat this typically polymicrobial infection .



(Choice A) While the normal postpartum period is associated with persistent vaginal discharge (lochia), this discharge should steadily resolve over the first two weeks and should never be foul-smelling.

(Choice B) Puerperal mastitis occurs in breastfeeding mothers and can begin with a sore or fissured nipple, but this diagnosis would be unlikely this soon after delivery.

(Choices D & E) Deep venous thrombosis and aspiration pneumonia would be associated with physical examination findings consistent with each of these diagnoses. The physical examination in this patient is normal other than the abnormalities such as uterine tenderness and foul-smelling lochia that indicate a puerperal infection rather than one of these conditions.

Educational objective:

Endometritis is characterized clinically by fever and uterine tenderness in the postpartum period and is often associated with foul-smelling lochia. Risk factors include prolonged ROM, prolonged labor, operative vaginal delivery and caesarian section among others.

The correct answer is: . Endometritis

**Question 199**

Not answered

Marked out of 1.00

An 18-year-old nullipara has suddenly stopped menstruating. She recently lost 8.6 kg when she started long-distance running. The laboratory test most consistent with her cause of secondary amenorrhea is which of the following?

Select one:

- ☐ a serum testosterone level of 156 ng/dL (normal 40–110)
- ☐ a serum prolactin level of 86 ng/mL (normal <20)
- ☐ a serum FSH level of 3 mIU/mL (normal 5–18)
- ☐ a serum LH level of 48 mIU/mL (normal 6–35)
- ☐ a serum estradiol level of 128 pg/mL (normal 40–300)

Women with amenorrhea owing to weight loss and stress have decreased hypothalamic secretion of GnRH, and secondarily decreased serum levels of FSH and LH. As a consequence, serum estradiol levels will be low. While women with weight loss amenorrhea may have mild hirsutism, it is probably the result of a decreased estrogen secretion and decreased estrogen:androgen ratio, rather than an increase in serum testosterone levels. (Speroff and Fritz, 2005, pp. 438–449)

The correct answer is: a serum FSH level of 3 mIU/mL (normal 5–18)

**Question 200**

Not answered

Marked out of 1.00

A 38-year-old G1P0 presents to the obstetrician's office at 37 weeks gestational age complaining of a rash on her abdomen that is becoming increasingly pruritic. The rash started on her abdomen, and the patient notes that it is starting to spread downward to her thighs. The patient reports no previous history of any skin disorders or problems. She denies any malaise or fever. On physical examination, she is afebrile and her physician notes that her abdomen, and most notably her stretch marks, is covered with red papules and plaques. No excoriations or bullae are present. The patient's face, arms, and legs are unaffected by the rash. Which of the following is this patient's most likely diagnosis?

Select one:

- ☐ . Pruritic urticarial papules and plaques of pregnancy
- ☐ . Intrahepatic cholestasis of pregnancy
- ☐ . Prurigo gravidarum
- ☐ . Impetigo herpetiformis

☐ . Herpes gestationis

Check

(Cunningham, pp 1126-1127, 1250-1253.) Pruritic urticarial papules and plaques of pregnancy (PUPPP) is the most common dermatologic condition of pregnancy. It is more common in nulliparous women and occurs most often in the second and third trimesters of pregnancy. PUPPP is characterized by erythematous papules and plaques that are intensely pruritic and appear first on the abdomen. The lesions then commonly spread to the buttocks, thighs, and extremities with sparing of the face. Herpes gestationis is a blistering skin eruption that occurs more commonly in multiparous patients in the second or third trimester of pregnancy. The presence of vesicles and bullae help differentiate this skin condition from PUPPP. Prurigo gestationis is a very rare dermatosis of pregnancy that is characterized by small, pruritic excoriated lesions that occur between 25 and 30 weeks. The lesions first appear on the trunk and forearms and can spread throughout the body as well. In cases of intrahepatic cholestasis of pregnancy, bile acids are cleared incompletely and accumulate in the dermis, which causes intense itching. These patients develop pruritus in late pregnancy; there are no characteristic skin changes or rashes except in women who develop excoriations from scratching. Impetigo herpetiformis is a rare pustular eruption that forms along the margins of erythematous patches. This skin condition usually occurs in late pregnancy. The skin lesions usually begin at points of flexure and extend peripherally; mucous membranes are commonly involved. Patients with impetigo herpetiformis usually do not have intense pruritus, but more commonly have systemic symptoms of nausea, vomiting, diarrhea, chills, and fever.

The correct answer is: . Pruritic urticarial papules and plaques of pregnancy

**Question 201**

Not answered

Marked out of 1.00

A 32-year-old G5P1 presents for her first prenatal visit. A complete obstetrical, gynecological, and medical history and physical examination is done. Which of the following would be an indication for elective cerclage placement?

Select one:

- ☐ . Three second-trimester pregnancy losses without evidence of labor or abruption
- ☐ . Three spontaneous first-trimester abortions
- ☐ . History of loop electrosurgical excision procedure for cervical dysplasia
- ☐ . Cervical length of 35 mm by ultrasound at 18 weeks
- ☐ . Twin pregnancy

Check

(ACOG, Practice Bulletin No. 48.) The diagnosis of cervical insufficiency or incompetence is based on the presence of painless cervical dilation with a history of pregnancy loss in the second trimester or early-third-trimester preterm delivery. A patient with a history of three or more midtrimester pregnancy losses or early preterm deliveries is a candidate for a cerclage. Cerclage is not indicated for the prevention of firsttrimester losses. Cerclage has not been shown to improve the preterm delivery rate or neonatal outcome in twin gestations. A simple punch biopsy or loop electrosurgical excision procedure of the cervix is unlikely to disrupt functional structure of the cervix and prophylactic cerclage is not warranted. Serial transvaginal ultrasound evaluation of cervical length can be considered in women with a history of second and early-third-trimester deliveries. A cervical length less than 25 mm or funneling of more than 25% or both is associated with an increased risk of preterm delivery.

The correct answer is: . Three second-trimester pregnancy losses without evidence of labor or abruption

**Question 202**

Not answered

Marked out of 1.00

A 17-year-old female comes to the physician because she has not yet had a menstrual period. She also complains of a lack of breast development. Past medical history is significant for anosmia and color blindness. Past surgical history is significant for a cleft palate that was repaired in childhood. She takes no medications and has no allergies to medications. Examination is significant for absent breast development, and a hypoerogenic vulva and vagina. Urine hCG is negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Kallmann syndrome
- ☐ . Testicular feminization syndrome
- ☐ . Pregnancy
- ☐ . Anorexia nervosa
- ☐ . Polycystic ovarian syndrome

Check

Patients with Kallmann syndrome (i.e., isolated gonadotropin deficiency or familial hypogonadotropic hypogonadism) can present with primary amenorrhea. Primary amenorrhea is defined as the absence of menses in a female by the age of 16. Associated findings in Kallmann syndrome may include anosmia or hyposmia, color blindness, and cleft lip or cleft palate. These findings are attributable to the fact that during embryogenesis the GnRH neurons originally develop in the epithelium of the olfactory placode and normally migrate into the hypothalamus. Thus exists the link between the midline defects and the amenorrhea. Physical examination may reveal absent to minimal breast development. Treatment of the patient with Kallmann syndrome is with exogenous estrogen and progestin replacement therapy. If pregnancy is desired, ovulation induction can be brought about with the pulsatile administration of exogenous GnRH. Anorexia nervosa (choice A) can cause amenorrhea and a reduction in breast size, but it is not associated with anosmia, color blindness, and cleft palate. These features are associated with Kallmann syndrome. Polycystic ovarian syndrome (choice C) is characterized by oligomenorrhea, hirsutism, infertility, and obesity. This patient does not have a presentation consistent with polycystic ovarian syndrome. Pregnancy (choice D) should always be the first thought when a potentially fertile woman presents with amenorrhea. However, this patient has a negative urine pregnancy test and no findings consistent with pregnancy. Testicular feminization syndrome (choice E) represents complete androgen insensitivity. This syndrome occurs in individuals with a 46, XY karyotype. Affected males have a female appearance with breast development.

The correct answer is: . Kallmann syndrome

**Question 203**

Not answered

Marked out of 1.00

A 25-year-old G3 at 39 weeks delivers a small-for-gestational-age infant with chorioretinitis, intracranial calcifications, jaundice, hepatosplenomegaly, and anemia. The infant displays poor feeding and tone in the nursery. The patient denies eating any raw or undercooked meat and does not have any cats living at home with her. She works as a nurse in the pediatric intensive care unit at the local hospital. What is the most likely causative agent?

Select one:

- ☐ . Hepatitis B
- ☐ . T. gondii
- ☐ . Group B streptococcus
- ☐ . Cytomegalovirus
- ☐ . Parvovirus

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) Cytomegalovirus in the mother is usually asymptomatic, but 15% of adults will have a mononucleosis-like syndrome. Maternal immunity does not prevent recurrence or congenital infection. Congenital infection includes low birth weight, microcephaly, intracranial calcifications, chorioretinitis, mental and motor retardation, sensorineural deficits, hepatosplenomegaly, jaundice, anemia, and thrombocytopenic purpura. The virus is shed in the secretions of affected individuals. Cytomegalovirus is common in day care centers and by age 2 or three children usually acquire the infection from one another and transmit it to their parents.

The correct answer is: . Cytomegalovirus

**Question 204**

Not answered

Marked out of 1.00

A 26-year-old woman in the third trimester of her first pregnancy develops persistent headaches and swelling of her legs and face. Early during her pregnancy, a physical examination was unremarkable; however, now her blood pressure is 170/105 mmHg and urinalysis reveals slight proteinuria. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Eclampsia
- ☐ . Nephrotic syndrome
- ☐ . Gestational trophoblastic disease
- ☐ . Preeclampsia
- ☐ . Nephritic syndrome

(Kumar, pp 1055-1057. Rubin, pp 832-834. Chandrasoma, pp 811-814.)  
Toxemia of pregnancy refers to the combination of hypertension, proteinuria, and pitting edema. This combination of signs is also called preeclampsia. When convulsions develop in an individual with preeclampsia, the condition is then referred to as eclampsia. These signs and symptoms result from abnormal placental implantation with incomplete conversion of the blood vessels of the decidua. Both of these result in placental ischemia. Normally the blood vessels of the uterine wall at the site of implantation increase in diameter and lose their muscular components. These changes increase the blood flow to the placenta and are the result of increased production of prostacyclin (a strong vasodilator) and decreased production of thromboxane (a potent vasoconstrictor). These changes do not take place at the implantation site in patients who develop preeclampsia. This causes placental ischemia and damages the endothelial cells of the blood vessels of the placenta. This endothelial damage disrupts the normal balance between vasodilation and vasoconstriction. As a result, there are increased levels of vasoconstrictors, such as thromboxane, angiotensin, and endothelin, and decreased levels of vasodilators, such as PGI<sub>2</sub>, PGE<sub>2</sub>, and nitric oxide. This results in arterial vasoconstriction, which produces systemic hypertension and can lead to activation of intravascular coagulation (DIC). Risk factors for the development of preeclampsia include nulliparity, twin gestation, and hydatidiform mole. Other complications associated with preeclampsia include renal disease and liver disease, such as the HELLP syndrome, which refers to hemolytic anemia, elevated liver enzymes, and low platelets.

The correct answer is: . Preeclampsia

**Question 205**

Not answered

Marked out of 1.00

A 65-year-old woman has an 8-year history of involuntary loss of urine: she leaks small amounts of urine when she coughs, sneezes, or laughs. In providing a history to her physician, she complains about feeling pelvic pressure, but denies feeling a burning sensation upon urinating or having an abnormally strong urinary urgency or frequency. She has no loss of urine at night; however, the symptoms occur frequently enough that she needs to wear a perineal pad. She underwent menopause 12 years ago. For treatment of hot flashes, she initially used oral estrogen hormone replacement along with 7 days of medroxyprogesterone acetate 1 week of every month. For the last 8 years, she has not used any hormone therapy. Speculum examination reveals an atrophic vagina and cervix without lesions. Bimanual examination reveals a small, symmetrical, midline, mobile, nontender uterus. There are no adnexal masses. With the Valsalva maneuver, there is protrusion of her anterior vaginal wall. Which one of the following is the most likely diagnosis for the physical finding?

Select one:

- ☐ Urethral diverticulum
- ☐ Cystocele
- ☐ Enterocele
- ☐ Rectocele
- ☐ Gartner's duct cyst

Urinary stress incontinence is an anatomic problem that develops when the proximal urethra and bladder neck drop below the pelvic floor because of lack of support due to pelvic relaxation. The increase in intraabdominal pressure is transmitted more to the bladder than to the urethra, resulting in involuntary urine loss with laughing, coughing, or sneezing. This condition may be associated with a cystocele (choice A), the bulging of the bladder into the upper anterior vaginal wall. However, the incontinence is not caused by the cystocele itself.

A urethral diverticulum (choice B) is a localized outpouching of the urethra into the anterior vaginal wall; it is diagnosed via urethroscopy. Although it causes increased urinary frequency it does not lead to stress leakage. Rectocele (choice D) is associated with bulging of the posterior vaginal wall. Enterocele (choice E) is herniation of the pouch of Douglas into the upper posterior vaginal wall. Gartner's duct cysts (choice C) are found in the lateral vaginal wall and are remnants of the embryologic mesonephric duct.

The correct answer is: Cystocele



**Question 206**

Not answered

Marked out of 1.00

A 75-year-old woman presents with a pruritic vulvar lesion. Physical examination reveals an irregular white, rough area involving her vulva. Biopsies from this area reveal a combination of squamous hyperplasia of the epidermis (acanthosis) with hyperkeratosis and mild dermal inflammation. No atrophy or dysplasia of the epidermis is seen. What is the best diagnosis?

Select one:

- ☐ . Lichen sclerosus
- ☐ . Balanitis xerotica obliterans
- ☐ . Paget disease
- ☐ . Bowen disease
- ☐ . Lichen simplex chronicus

(Kumar, pp 1011-1016. Rubin, pp 787-789.) Lichen simplex chronicus (LSC) is a nonspecific reaction that results from chronic scratching of a pruritic skin lesion. Histologically, LSC is characterized by acanthosis (thickening) and hyperkeratosis of the vulvar squamous epithelium. A mild dermal inflammatory response may be present. In contrast, lichen sclerosus is seen histologically as atrophy of the epidermis with underlying dermal fibrosis. This abnormality is seen in postmenopausal women, who develop pruritic white plaques of the vulva. It is not thought to be premalignant. The male counterpart of lichen sclerosus is called balanitis xerotica obliterans and is found on the penis. Bowen disease refers to a specific type of squamous cell carcinoma in situ of the skin, while Paget disease is a malignant tumor that can be found in the breast or the vulva. The latter is seen clinically as pruritic, red, crusted, sharply demarcated map-like areas. Histologically, these malignant lesions reveal single anaplastic tumor cells surrounded by clear spaces ("halos") infiltrating the epidermis. These malignant cells stain positively with PAS and mucicarmine stains.

The correct answer is: . Lichen simplex chronicus

**Question 207**

Not answered

Marked out of 1.00

A 50-year-old woman presents to your office complaining of severe insomnia, hot flashes, and mood swings. She also states that her mother had a hip fracture at 65 years of age. She is afraid of developing osteoporosis and having a similar incident. Her last menstrual period was six months ago. Her past medical history is significant for hypothyroidism diagnosed seven years

ago. She takes L-thyroxine and the dose of the hormone has been stable for the last several years. Her blood pressure is 120/70 mmHg and her heart rate is 75/min. Serum TSH level is normal. You consider estrogen replacement therapy for this patient. Which of the following is most likely concerning estrogen replacement therapy in this patient?

Select one:

- ☐ . The requirement for L-thyroxine would increase
- ☐ . The level of total thyroid hormones would decrease
- ☐ . The metabolism of thyroid hormones would decrease
- ☐ . The level of TSH would decrease
- ☐ . The volume of distribution of thyroxine would decrease

Check

Estrogen replacement therapy affects the metabolism of thyroid hormones. The requirement for L-thyroxine increases, although the exact mechanism that leads to this effect is not completely understood. The most probable cause is increased metabolism of thyroid hormones due to induction of P450 (CYP3A4) in the liver

(Choice B). Several other medications (e.g., rifampin, carbamazepine, and phenytoin), act in the same way. Other mechanisms that can explain an increase in the requirement for L-thyroxine in patients receiving estrogen replacement therapy, include an increased level of thyroid-binding globulin (TBG) and an increased volume of the distribution of thyroid hormones (Choice D).

(Choice A) Due to the increase in the TBG, the level of total thyroid hormones would not decrease substantially, although the free hormone level would decrease.

(Choice E) Serum TSH level represents a sensitive marker of hypothyroid state and would increase if the dose of L-thyroxine is not adjusted accordingly.

Educational objective:

The requirement for L-thyroxine in patients receiving estrogen replacement therapy increases. The potential causes may include induction of liver enzymes, increased level of TBG, and an increased volume of the distribution of thyroid hormones. In pregnancy, also, thyroid hormone requirements will be increased, and the patient should be monitored every 4-6 weeks for dose adjustments.

The correct answer is: . The requirement for L-thyroxine would increase

**Question 208**

Not answered

Marked out of 1.00

A 28-year-old woman is admitted for delivery. She began experiencing regular, painful uterine contractions three hours ago and her water broke en route to the hospital. The cervix is 5 cm dilated and 80% effaced. The fetal presentation is vertex and the baby's head is at -1 station. After placing a fetal heart monitor and external tocometer, repetitive decreases in fetal heart rate are noted which begin at the same time as the contractions and end before the contractions have ceased. Which of the following is most likely responsible for the fetal heart pattern?

Select one:

- ☐ . Uteroplacental insufficiency
- ☐ . Intrauterine infection
- ☐ . Umbilical cord compression
- ☐ . Periods of fetal sleep
- ☐ . Fetal head compression

The pattern of fetal heart rate decelerations described in this vignette is consistent with early decelerations . An early deceleration is characterized by a drop in fetal heart rate of 15 beats/min which lasts for at least 15 seconds. The deceleration in heart rate begins with initiation of the uterine contraction, and resolves by the time the contraction has ceased. Early decelerations are not associated with fetal acidosis or negative neonatal outcomes. Therefore, they are not classified as a nonreassuring heart rate pattern. Late decelerations, on the other hand, are associated with fetal acidosis and negative neonatal outcomes, and are classified as a nonreassuring heart rate pattern. Late decelerations are distinguished from early decelerations by heart rate depression which begins at or after the peak of the uterine contraction and continues after the uterine contraction has ceased. Early decelerations occur in the setting of fetal head compression (Choice C), while late decelerations occur in the setting of uteroplacental insufficiency .

(Choice A) Fetal sleep presents with decreased long-term variability.

(Choice B) Fetal cord compression presents with variable decelerations.

(Choice D) Uteroplacental insufficiency presents with late decelerations.

(Choice E) Intrauterine infections may present with fetal tachycardia (HR > 160).

Educational objective:

Early decelerations are depressions in fetal heart rate that resolve by the end of the uterine contraction. Early decelerations are not considered a nonreassuring heart rate pattern, and are the result of fetal head compression.

The correct answer is: . Fetal head compression

**Question 209**

Not answered

Marked out of 1.00

A full-term 2200-g (4.9-lb) boy was born to a 30-year-old G4P3 woman whose pregnancy was complicated by a seizure disorder for which she inconsistently took carbamazepine. The pregnancy was also notable for an abnormal triple screen for which an amniocentesis was declined. His Apgar scores are 7 and 9 at 1 and 5 minutes, respectively. His temperature is 37.0C (98.6F), blood pressure is 65/45 mm Hg, heart rate is 110/min, and respiratory rate is 30/min. His head circumference is <5th percentile. There is a small fleshy sac protruding from the sacral spine. His reflexes are 2+ throughout, and his strength is 5/5 in all extremities. His fingernails are very small. Which of the following is the most likely diagnosis?

Select one:

- ☐ Anoxia due to maternal seizing
- ☐ Fetal alcohol syndrome
- ☐ Trisomy 21
- ☐ Trisomy 18
- ☐ Perinatal exposure to carbamazepine

Check

Carbamazepine is teratogenic, causing neural tube defects, fingernail hypoplasia, microcephaly, and intrauterine growth retardation. The presentation of neural tube defects (spina bifida and anencephaly) varies based on the extent and location of the lesion. This child's lesion is consistent with a sacral meningocele. Neural tube defects cause an elevated  $\alpha$ -fetoprotein level on triple screen.

Answer A is incorrect. Anoxia secondary to maternal seizure is not teratogenic but may result in fetal demise, growth retardation, and brain damage.

Answer B is incorrect. Symptoms of FAS are facial abnormalities (macrognathia, thin upper lip, short palpebral fissure, epicanthal fold, and thin upper lip), poor growth (small head circumference, short length, and low weight), cardiac defects, minor joint and limb abnormalities, and developmental delay/mental retardation.

Answer D is incorrect. Trisomy 18, or Edwards' syndrome, classically presents with rocker-bottom feet, low-set ears, micrognathia, prominent occiput, clenched hands, and congenital heart disease. This syndrome causes a low maternal serum  $\alpha$ -fetoprotein, low estriol, and low  $\beta$ -hCG on triple screen.

Answer E is incorrect. Trisomy 21, or Down's syndrome, classically presents with a fl at facial profile, prominent epicanthal folds, upslanting palpebral fissures, clinodactyly, simian crease, and congenital heart disease. On the triple screen, maternal serum  $\alpha$ -fetoprotein and estriol levels are low, while the  $\beta$ -hCG level is high.

The correct answer is: Perinatal exposure to carbamazepine

**Question 210**

Not answered

Marked out of 1.00

A 22-year-old, gravida 1, para 0, at 13 weeks gestation is brought to the emergency department because of vaginal discharge and lower abdominal discomfort. She has had no passage of tissue from her vagina. She does not use tobacco, alcohol or drugs. She has no history of trauma. Her temperature is 37.0C (98.7F), blood pressure is 128/80 mmHg, pulse is 76/min and respirations are 14/min. Physical examination shows a closed cervix, a slightly tender uterus with a size consistent with gestational age, free adnexae and scant bright red bleeding from the introitus. Ultrasonogram in the emergency department shows normal fetal heart motion. She is anxious and concerned about her baby. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Threatened abortion
- ☐ . Inevitable abortion
- ☐ . Ectopic pregnancy
- ☐ . Incomplete abortion
- ☐ . Completed abortion

Check

This patient has a threatened abortion. Threatened abortion is a term used to describe any hemorrhage occurring before the 20th week of gestation with a live fetus. The cervix is closed and there is no passage of fetal tissue. Mild lower abdominal pain may be noted and the fetal heart is active on ultrasound. Twenty five percent of pregnancies have some extent of vaginal bleeding in the first trimester. In half of these cases, a spontaneous abortion will actually occur.

(Choice A) Incomplete abortion involves the evacuation of some fetal tissue while a remainder is retained in the uterine cavity. Clinical symptoms include vaginal discharge of blood and tissue-like material, abdominal cramps and cervical dilation. Retained products of conception can be visualized with transvaginal ultrasonography.

(Choice C) In complete abortion, the whole conceptus passes through the cervix. After this passage, the cervix closes and uterine contractions subside. Ultrasonography shows an empty uterus.

(Choice D) Inevitable abortion manifests with vaginal bleeding, lower abdominal cramps that may radiate to the back and perineum and a dilated cervix. Ultrasonography demonstrates a ruptured or collapsed gestational sac with absence of fetal cardiac motion.

(Choice E) Ectopic pregnancy typically presents with acute onset abdominal pain and dark red vaginal bleeding in the first trimester. Physical exam reveals an adnexal mass, and ultrasonogram shows no gestational sac in the uterus.

Educational objective:

Threatened abortion is characterized by any hemorrhage occurring before the 20th week of gestation with a live fetus and a closed cervix.

The correct answer is: . Threatened abortion

**Question 211**

Not answered

Marked out of 1.00

On postoperative day 3 after an uncomplicated repeat cesarean delivery, the patient develops a fever of 38.2C (100.8F). She has no complaints except for some fullness in her breasts. On examination she appears in no distress; lung and cardiac examinations are normal. Her breast examination reveals full, firm breasts bilaterally slightly tender with no erythema or masses. She is not breast-feeding. The abdomen is soft with firm, nontender fundus at the umbilicus. The lochia appears normal and is nonodorous. Urinalysis and white blood cell count are normal. Which of the following is a characteristic of the cause of her puerperal fever?

Select one:

- ☐ . Appears 3 to 4 days after the development of lacteal secretion
- ☐ . Is less severe and less common if lactation is suppressed
- ☐ . Fever rarely exceeds 37.8C (99.8F)
- ☐ . Appears in less than 5% of postpartum women
- ☐ . Is almost always painless

(James, pp 766-770.) Puerperal fever from breast engorgement is relatively uncommon, affecting 13% to 18% of postpartum women. It appears 24 to 48 hours following initiation of lacteal secretion and ranges from 38°C to 39°C (100.4°F to 102.2°F). Pain is an early and common symptom. Treatment consists of breast support, ice packs, and pain relievers. The incidence and severity of breast engorgement are lower if treatment is given for suppression of lactation.

The correct answer is: . Is less severe and less common if lactation is suppressed

**Question 212**

Not answered

Marked out of 1.00

A 23-year-old woman complains of breast pain two days after delivering her first child. The delivery was complicated by mild postpartum bleeding. On exam, both breasts are tense, warm, and tender to touch. Her blood pressure is 130/70 mmHg, heart rate is 100/min, and temperature is 99.4 OF (37.4 OC). What is the most likely diagnosis?

Select one:

- ☐ . Mastitis
- ☐ . Plugged ducts
- ☐ . Superficial vein thrombosis

- ☐ . Breast abscess
- ☐ . Breast engorgement

Check

This woman has breast engorgement, common in the first 24 to 72 hours after childbirth secondary to milk accumulation. While it may occur at any point during breast feeding, it is especially common early in the postpartum period when milk production is particularly robust. Symptoms include breast fullness, tenderness, and warmth. It typically peaks 3 to 5 days postpartum and improves spontaneously in most patients. Cool compresses, acetaminophen, and NSAIDs may be used for symptom control.

(Choice A) Mastitis is a breast infection that causes unilateral breast pain with an isolated firm, tender, erythematous area accompanied by fever greater than 38.3° C. It is distinguished from plugged ducts by the presence of fever. Anti-staphylococcal agents are first-line therapy. This patient has bilateral, not unilateral, symptoms, which would be unusual for mastitis.

(Choice B) Breast abscesses are rare and present similarly to mastitis but with a palpable, fluctuant mass. They are treated with antibiotics and drainage.

(Choice D) Plugged ducts present similarly to mastitis but lack fever or systemic symptoms. They are treated by improving the quality of breastfeeding. Persistently plugged ducts resulting in galactoceles may be treated with aspiration.

(Choice E) Superficial vein thrombosis can cause tenderness and localized erythema but is unlikely to cause bilateral tense breasts.

Educational objective:

Breast engorgement is a common problem associated with breast feeding. Characterized by bilateral breast tenderness and swelling, it typically presents 24 to 72 hours post partum, peaks 3 to 5 days after delivery, and resolves spontaneously.

The correct answer is: . Breast engorgement

### Question 213

Not answered

Marked out of 1.00

A 34-year-old primigravida develops severe postpartum bleeding requiring aggressive volume resuscitation and transfusion of 5 units of packed red blood cells. Her pregnancy was complicated by mild hypertension and trace proteinuria that was treated with low-dose methyldopa. Her mother suffered from premature menopause and severe osteoporosis. Seven days after giving birth, she has failed to lactate. Her urinalysis is insignificant and her blood pressure has ranged from 95 to 110 mmHg systolic and 69 to 75 mmHg



diastolic. Fundoscopy shows no retinal changes. Which of the following is most likely deficient in this patient?

Select one:

- ☐ . Aldosterone
- ☐ . Progesterone
- ☐ . Oxytocin
- ☐ . Inhibin
- ☐ . Prolactin

Check

This patient had a severe postpartum hemorrhage and is unable to lactate several days after delivery. This is concerning for Sheehan's syndrome. Under normal conditions, the postpartum fall in estrogen and progesterone combine with nipple stimulation by a suckling child to increase prolactin concentrations and promote lactation. However, women who have massive postpartum hemorrhage may develop anterior pituitary necrosis, or Sheehan's syndrome, due to pituitary hypoperfusion. Hormones secreted from the anterior pituitary include prolactin, thyroid stimulating hormone (TSH), and follicle stimulating hormone (FSH). Failure of lactation due to prolactin deficiency is the classic initial presentation of Sheehan's syndrome. Other complications resulting from anterior pituitary failure include hypothyroidism, amenorrhea, genital atrophy, loss of pubic and axillary hair, and fatigue.

(Choice A) Inhibins are made by the granulosa cells of ovarian follicles and exert feedback inhibition of pituitary FSH release. An inhibin deficiency would not be expected to affect postpartum lactation.

(Choice B) Progesterone levels normally fall in the postpartum period and contribute to the disinhibition of prolactin's lactogenic effects. A postpartum progesterone deficiency would not prevent lactation.

(Choice C) Primary adrenal insufficiency due to adrenal hemorrhage has been associated with postpartum hemorrhage. Adrenal failure would worsen hypotension and potentially increase the risk of pituitary necrosis, but it would not directly inhibit this patient's ability to lactate.

(Choice E) Oxytocin causes contraction of mammary gland myoepithelial cells and promotes milk ejection. A deficiency of this hormone might inhibit milk let down but would not significantly decrease milk production.

Educational objective:

Failure to lactate is the classic initial presentation of Sheehan's syndrome, or postpartum ischemic necrosis of the anterior pituitary due to hemorrhagic shock. Failure to produce milk in this condition results from prolactin deficiency.

The correct answer is: . Prolactin

**Question 214**

Not answered

Marked out of 1.00

A 24-year-old woman, gravida 2, para 1, at 36 weeks' gestation is brought to the emergency department after passing out. She is drowsy and moaning, complaining of abdominal pain. Her husband accompanies her. He states that she has not experienced any trauma, but that she experienced the sudden onset of severe abdominal pain before she passed out. She has no significant past medical history. Her pregnancy has been uncomplicated thus far. She does not use tobacco, alcohol, or drugs. She takes supplemental vitamins, but no other medications. Her temperature is 36.9 C (98.4F), blood pressure is 90/60 mm of Hg, and pulse is 130/min. Physical examination shows a cold and diaphoretic female. Examination shows a uterus consistent in size with a 36-week gestation; the cervical os is closed and no vaginal bleeding is noted. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Septic shock
- ☐ . Preeclampsia
- ☐ . Amniotic fluid embolism
- ☐ . Abruptio placentae
- ☐ . Placenta previa

Check

Abruptio placentae is the most likely diagnosis in this patient given her sudden onset of abdominal pain in the third trimester and the absence of trauma. There is no vaginal bleeding noted on exam in this patient, but the absence of hemorrhage does not rule out placental abruption. Bleeding is seen in 80% of placental abruptions, and in some cases bleeding may be retroplacental and not appear on vaginal exam. The most common risk factor for abruptio placentae is maternal hypertension. Other risk factors include cocaine abuse, trauma, excessive uterine distention, tobacco use, and previous placental abruption .

(Choice A) Placenta previa presents with painless vaginal bleeding.

(Choice C) Preeclampsia is associated with hypertension, proteinuria and edema.

(Choice D) Amniotic fluid embolism usually occurs during amniocentesis or labor, and presents with respiratory failure and cardiac shock. Abdominal pain is not expected.

(Choice E) Septic shock is unlikely without fever or any precipitating factors such as rupture of membranes or urinary tract infection.

Educational objective:

The classic manifestations of acute abruptio placentae include vaginal bleeding, abdominal pain, uterine

contractions, and uterine tenderness. The absence of blood on pelvic exam does not rule out this condition.

The correct answer is: . Abruptio placentae

**Question 215**

Not answered

Marked out of 1.00

A 21-year-old woman comes to the physician because of abdominal pain. She states that the pain is in her right lower quadrant and has been getting worse over the past 3 months. She has no other symptoms and a normal appetite. Examination demonstrates mild right lower quadrant abdominal tenderness. Pelvic examination reveals mild right adnexal enlargement and tenderness. Urine human chorionic gonadotropin (hCG) is negative. A pelvic ultrasound is obtained that shows a 4-centimeter, heterogeneous hyperechoic lesion in the right adnexa with cystic areas. On transvaginal ultrasound, hair and calcifications are demonstrated within the cystic areas. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Appendicitis
- ☐ . Tubo-ovarian abscess
- ☐ . Benign cystic teratoma (dermoid)
- ☐ . Ectopic pregnancy
- ☐ . Corpus luteum cyst

Check

This patient has a presentation and findings that are most consistent with a benign cystic teratoma (dermoid). Cystic teratomas are, by far, the most common type of ovarian neoplasm: cystic teratomas account for 25 to 40% of all ovarian neoplasms. They are a type of ovarian germ cell tumor, which can range in size from small masses that are noted incidentally on ultrasound and cause no symptoms to larger cysts that cause pain and pressure, as this patient has. A single germ cell gives rise to a teratoma. Because the germ cell is totipotent, the dermoid is characterized by all three germ cell layers: ectoderm, mesoderm, and endoderm. Gross examination of a dermoid will often reveal skin, bones, hair, and teeth, which can often be seen on ultrasound. The part of the dermoid that contains the largest number of different tissues is called Rokitansky's protuberance. Laparotomy is usually the most appropriate management of a patient with a dermoid because, as adnexal masses enlarge, the risk of ovarian torsion increases. Also, dermoids may cause symptoms of pain and pressure and, on that basis, should be removed. At the time of surgery, close examination should be made of the other ovary because dermoids may be found bilaterally in more than 10% of cases. Appendicitis (choice A) is usually not a chronic process slowly developing over 3 months. Also, patients with appendicitis typically have anorexia and appear ill. A corpus luteum cyst (choice C) is a common cause of a complex adnexal mass in a young woman. However, this patient has a presentation and a mass with ultrasound characteristics that are classic for dermoid. Ectopic pregnancy (choice D) should always be considered when a woman of childbearing age presents with abdominal pain. A negative urine hCG effectively rules out ectopic pregnancy. Patients with a tubo-ovarian abscess (choice E) usually have fevers, significant abdominal and pelvic tenderness, and appear ill.

The correct answer is: . Benign cystic teratoma (dermoid)

**Question 216**

Not answered

Marked out of 1.00

On the first pelvic examination of an 18-yearold nulligravida, a soft, fluctuant mass is found in the superior aspect of the right labia majora. This is asymptomatic. She tells you it has been present for several years and seems to be enlarging slightly. There is no defect in the inguinal ring. Which of the following is the most likely diagnosis?

Select one:

- ☐ femoral hernia
- ☐ vulvar varicosities
- ☐ cyst of the canal of Nuck
- ☐ inguinal hernia
- ☐ granuloma inguinale

The most likely diagnosis is a cyst of the canal of Nuck. These arise from inclusions of the peritoneum at the inferior insertion of the round ligament into the labia majora. They are analogous to a spermatic cord hydrocele and are typically found at the superior aspect of the labia majora. Vulvar varicosities usually involve most of the labia, occur in older and parous women, and have a classical “bag of worms” appearance. Given the physical findings, a hernia is unlikely. An ultrasound may be useful to distinguish a hernial sac from a cyst of the canal of Nuck. One-third of women with a cyst of the canal of Nuck may have a coexistent inguinal hernia. (Scott et al., 2003, p. 622)

The correct answer is: cyst of the canal of Nuck

**Question 217**

Not answered

Marked out of 1.00

A 28-year-old primigravid woman comes to the physician for a follow-up prenatal visit. According to prenatal records, ultrasound at 16 weeks gestation showed an intrauterine gestation consistent with dates and showed no abnormalities. She is now at 40 weeks gestation. Examination shows a fundal height consistent with dates and the cervix is not favorable. Fetal heart tracing is reassuring. She wishes to continue the pregnancy for two more weeks rather than undergoing induction. She should be closely monitored for which of the following?

Select one:

- ☐ . Preeclampsia
- ☐ . Oligohydramnios
- ☐ . Abruptio placentae

- ☐ . Polyhydramnios
- ☐ . Placenta previa

Check

Prolonged (postterm) pregnancy is defined as any pregnancy at or beyond 42 weeks gestational age measured from the last menstrual period. Postterm pregnancy can be managed with either induction of labor or close twice weekly assessment of fetal well being. Patients with an unfavorable cervix are typically managed expectantly while those with a favorable cervix are managed with induction. Twice weekly monitoring with ultrasonography is required to evaluate for oligohydramnios in postterm pregnancies because amniotic fluid can become drastically reduced within 24 to 48 hours. Oligohydramnios in these cases is defined as no vertical pocket of amniotic fluid greater than 2 cm or an amniotic fluid index of 5 cm or less.

(Choice A) Polyhydramnios is associated with congenital fetal malformations. The most commonly associated malformations are those of the GI tract and CNS .

(Choice C) Risk factors for abruptio placenta include uncontrolled maternal hypertension, maternal cocaine use and a history of prior episodes of placental abruption.

(Choice D) Risk factors for placenta previa include advancing maternal age, multiparity, multiple gestations, smoking and prior caesarian section.

(Choice E) Preeclampsia risk factors are numerous. Some risk factors include extremes of maternal age, diabetes, renal diseases, collagen vascular diseases, baseline uncontrolled maternal hypertension and a family history of preeclampsia.

Educational objective:

Postterm pregnancies are at an increased risk for oligohydramnios, which itself is associated with increased fetal morbidity. Postterm pregnancies should be monitored for oligohydramnios twice weekly.

The correct answer is: . Oligohydramnios

### Question 218

Not answered

Marked out of 1.00

A 29-year-old woman, gravida 3, para 2, at 35 weeks gestation is brought to the emergency department because of vaginal bleeding. She has had no uterine contractions. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 12th week showed an intrauterine gestation consistent with dates. Four years ago, she had a low transverse cesarean section in her second pregnancy. Physical examination shows bright

red vaginal bleeding. Her temperature is 37.0 C (98.7 F), blood pressure is 100/70 mm Hg, pulse is 90/min and respirations are 16/min. Fetal heart monitoring is reassuring. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Abruptio placenta
- ☐ . Vasa previa
- ☐ . Placenta previa
- ☐ . Uterine rupture
- ☐ . Normal labor

Check

Placenta previa refers to insertion of the placenta in a way that obstructs the internal cervical os partially or completely. This abnormal insertion may cause bleeding as the inferior segment of the uterus develops and stretches the placenta. Placenta previa is responsible for 20% of all cases of antepartum hemorrhage and is typically painless. Risk factors include multiparity, advanced maternal age, prior caesarian section, smoking, multiple gestation (as multiple placentas cover a larger surface and have a higher risk of low insertion) and prior placenta previa .

(Choice A) Abruptio placenta is a premature placental separation initiated by hemorrhage in the decidua basalis. It is classically associated with underlying maternal hypertension. The clinical presentation is variable. Patients may be asymptomatic with intrauterine fetal death or may present with dark red vaginal bleeding associated with painful uterine contractions.

(Choice C) Vasa previa is a rare condition in which the fetal blood vessels cross the fetal membranes in the lower segment of the uterus between the fetus and the internal cervical os. It also presents as painless antepartum hemorrhage but is associated with rapid deterioration of the fetal heart tracing as the hemorrhage is of fetal origin.

(Choice D) Uterine rupture classically presents with a sudden onset of intense abdominal pain and vaginal bleeding associated with hyperventilation, agitation and tachycardia.

(Choice E) Normal labor presents with regular contractions associated with cervical dilation, release of the mucous plug and bloody show due to tearing of small cervical veins. Frank hemorrhage is not associated with normal labor.

Educational objective:

In the presence antepartum hemorrhage, pelvic examination must not be done before ruling out placenta previa. Placenta previa presents with painless third trimester vaginal bleeding.

The correct answer is: . Placenta previa

**Question 219**

Not answered

Marked out of 1.00

A 32-year-old female with a history of amenorrhea develops white nipple discharge. She eats a balanced diet and exercises regularly. She is not sexually active. Her family history is significant for her mother dying of breast cancer at age 50. The most likely diagnosis in this patient is:

Select one:

- ☐ . Pituitary adenoma
- ☐ . Fibrocystic breast disease
- ☐ . Intraductal papilloma
- ☐ . Fibroadenoma
- ☐ . Lobular breast carcinoma

Check

A prolactin-secreting pituitary adenoma (prolactinoma) would explain the findings in this patient. Hyperprolactinemia causes galactorrhea and amenorrhea in females. Galactorrhea results from the direct stimulatory effect of prolactin on the mammary glands, and amenorrhea results from the inhibitory effect of prolactin on GnRH secretion.

(Choice A) Fibrocystic breast disease is a normal variant that causes the breasts to feel dense and lumpy in a waxing and waning fashion with the menstrual cycle.

(Choice B) Fibroadenomas are benign neoplasms of the breasts that often occur in young women. Fibroadenomas are typically asymptomatic and discovered on screening exams.

(Choice C) Intraductal papilloma is a benign tumor within the mammary duct of unknown etiology. It is the most common cause of spontaneous nipple discharge. This discharge is usually bloody or serosanguinous.

(Choice D) Lobular breast carcinoma typically presents as an asymptomatic breast lump. Nipple discharge but not amenorrhea may be associated.

(Choice E) Follicular thyroid carcinoma is an aggressive form of thyroid carcinoma that often metastasizes to lung and bone. Patients typically present with an asymptomatic neck mass. Voice changes may occur if there



has been involvement of the larynx or recurrent laryngeal nerve.

Educational Objective:

Prolactinomas are the most common pituitary adenomas. The excess prolactin produced by these tumors can cause galactorrhea and amenorrhea. Visual changes may also occur due to compression of the optic chiasm.

The correct answer is: . Pituitary adenoma

**Question 220**

Not answered

Marked out of 1.00

A 25-year-old woman in her 15th week of pregnancy presents with uterine bleeding and passage of a small amount of watery fluid and tissue. She is found to have a uterus that is much larger than estimated by her gestational dates. Her uterus is found to be filled with cystic, avascular, grapelike structures that do not penetrate the uterine wall. No fetal parts are found. Immunostaining for p57 was negative in the cytotrophoblasts and villi mesenchyme. Which of the following is the best diagnosis?

Select one:

- ☐ . Partial hydatidiform mole
- ☐ . Complete hydatidiform mole
- ☐ . Placental site trophoblastic tumor
- ☐ . Choriocarcinoma
- ☐ . Invasive mole

Check

(Kumar, pp 1057-1061. Rubin, pp 835-838.) Gestational trophoblastic diseases include benign hydatidiform mole (partial and complete), invasive mole (chorioadenoma destruens), placental site trophoblastic tumor, and choriocarcinoma. Hydatidiform moles, both partial and complete, are composed of avascular, grapelike structures that do not invade the myometrium. It is important to differentiate between these two disorders because about 2% of complete moles may develop into choriocarcinoma, but partial moles are rarely followed by malignancy. In complete (classic) moles, all the chorionic villi are abnormal and fetal parts are not found. In partial moles, only some of the villi are abnormal and fetal parts may be seen. Complete moles have a 46,XX diploid pattern and arise from the paternal chromosomes of a single sperm by a process called androgenesis. In contrast, partial moles have a triploid or a tetraploid karyotype and arise from the fertilization of a single egg by two sperm. Another way to differentiate

these two disorders is to use immunostaining for p57, which is a gene that is paternally imprinted (inactivated). Because the complete mole arises only from paternal chromosomes, immunostaining for p57 will be negative.

Invasive moles penetrate the myometrium and may even embolize to distant sites. A similar lesion is the placental site trophoblastic tumor, which is characterized by invasion of the myometrium by intermediate trophoblasts. Gestational choriocarcinomas, composed of malignant proliferations of both cytotrophoblasts and syncytiotrophoblasts without the formation of villi, can arise from either normal or abnormal pregnancies: 50% arise in hydatidiform moles, 25% in cases of previous abortion, 22% in normal pregnancies, and the rest in ectopic pregnancies or teratomas. Both hydatidiform moles and choriocarcinomas have high levels of human chorionic gonadotropin (hCG); the levels are extremely high in choriocarcinoma unless considerable tumor necrosis is present.

The correct answer is: . Complete hydatidiform mole

**Question 221**

Not answered

Marked out of 1.00

A 26-year-old primigravid woman at 42 weeks' gestation comes to the labor and delivery ward for induction of labor. The prenatal course was significant for a positive group B Streptococcus culture performed at 35 weeks. Antenatal testing over the past 2 weeks has been unremarkable. The patient is started on lactated Ringer's IV solution. Sterile vaginal examination shows that the patient's cervix is long, thick, and closed. Prostaglandin (PGE<sub>2</sub>) gel is placed into the vagina, and electronic fetal heart rate monitoring is continued. In approximately 60 minutes, the fetal heart rate falls to the 90s, as the tocodynamometer shows the uterus to be contracting every 1 minute with essentially no rest in between contractions. Which of the following was most likely the cause of the uterine hyperstimulation?

Select one:

- ☐ . Postdates pregnancy
- ☐ . Prostaglandin (PGE<sub>2</sub>) gel
- ☐ . IV fluids
- ☐ . Vaginal examination
- ☐ . Infection

Check

Prostaglandin (PGE<sub>2</sub>) gel is widely used for labor induction. In simple terms, it is used "to soften" an unfavorable cervix, to make the cervix more favorable for induction. It has been shown to lead to an improvement in the Bishop's

score, a shorter duration of labor, a need for lower maximal doses of oxytocin, and a reduced incidence of cesarean deliveries. PGE2 gel can also cause uterine contractions. One of the major side effects with PGE2 gel is uterine hyperstimulation. This occurs when uterine contractions come one right after the other, or when there is a tetanic contraction (a prolonged uterine contraction with no rest period). In this setting, the fetus can become hypoxic with a resultant bradycardia. This patient had the gel placed and 60 minutes later had uterine hyperstimulation. Infection (choice A) has not been shown to cause uterine hyperstimulation. This patient's group B Streptococcus colonization is likely noncontributory. IV fluids (choice B), unless oxytocin is present, do not cause uterine hyperstimulation. Postdates pregnancy (choice C) is the reason for this patient's induction and not likely the direct cause of her uterine hyperstimulation. Vaginal examination (choice E) does not usually cause uterine hyperstimulation. Vaginal examination with a cervical examination can be used for fetal scalp stimulation-rubbing the baby's head to provoke an acceleration of the fetal heart rate. However, this does not usually provoke uterine hyperstimulation.

The correct answer is: . Prostaglandin (PGE2) gel

**Question 222**

Not answered

Marked out of 1.00

A 32-year-old woman, gravida 3, para 2, at 38 weeks gestation is admitted to the hospital for labor pains. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. In her second pregnancy, she had to undergo cesarean section. The woman is admitted to the delivery room and fetal heart and uterine contraction monitoring is started. Her blood pressure is 100/60mmHg, pulse is 115/min and respirations are 26/min. Pelvic examination shows the cervix is 60% effaced and 6cm dilated. Uterine contractions are regular and occurring every 4 minutes. Fetal heart tracing shows no abnormalities. Suddenly, the patient starts complaining of an intense lower abdominal pain. She is restless and vaginal bleeding is noted. Fetal heart monitoring shows variable decelerations, and the fetus has shifted to the '-2' station from '0' station. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Uterine rupture
- ☐ . Bladder distention
- ☐ . Placental abruption
- ☐ . Vasa previa
- ☐ . Endometritis

[Check](#)

The patient most likely has had a uterine rupture due to the uterine scar from her prior caesarian section. Uterine rupture typically presents with intense abdominal pain associated with vaginal bleeding. Hyperventilation, agitation, and tachycardia usually indicate an imminent rupture. After the rupture has occurred, the patient may feel slightly relieved, but soon after, the pain returns in a more diffuse fashion, the presenting part may retract and no longer be palpable on pelvic exam and the fetal limbs can become palpable on abdominal examination. A delivery by emergent caesarian section is indicated as the mother can readily exsanguinate due to uterine rupture leading to both maternal and fetal demise. Subsequent total abdominal hysterectomy is the treatment of choice to stop the bleeding in most instances. However, debridement and closure of the site of rupture can be considered in women with low parity who desire more children.

(Choice A) Placental abruption is characterized clinically by abdominal and back pain and a hypertonic and tender uterus. Fetal station will not change. Common associations include hypertension and cocaine use.

(Choice B) Vasa previa is a condition characterized by splitting of the umbilical vessels within the amniotic membrane away from the placenta. These vessels can tear during rupture of the membranes leading to fetal exsanguination. There are no maternal symptoms.

(Choice D) Endometritis typically occurs in the postpartum period and is characterized by fever, a tender uterus, foul-smelling lochia and progression to sepsis if not treated early.

(Choice E) Bladder distention can occur in the postpartum period due to trauma to the base of the bladder that interferes with normal voiding.

(Choice F) Normal delivery is not associated with retraction of the fetal presenting parts as described in the question stem. Normal delivery is associated with early decelerations on the fetal heart rate tracing as a result of compression of the fetal head by the contracting uterus.

Educational objective:

Sudden onset abdominal pain, fetal heart rate abnormalities and recession of the presenting part during active labor indicates uterine rupture. Risk factors include a preexisting uterine scar or abdominal trauma.

The correct answer is: . Uterine rupture

**Question 223**

Not answered

Marked out of 1.00

A 32-year-old woman, gravida 1, is in active labor. Lumbar epidural anesthesia is being used for pain control. She is having contractions every two to three minutes. The cervix is 4cm dilated. Fetal heart rate is reassuring. Her blood pressure is 90/55 mmHg and heart rate is 120/min. What is the most probable cause of her hypotension?

Select one:

- ☐ . Blood redistribution to the upper trunk
- ☐ . CNS involvement
- ☐ . Depressed myocardial contractility
- ☐ . Blood venous pooling
- ☐ . Intravascular fluid loss

The clinical scenario described is suggestive of hypotension as a side effect of epidural anesthesia. Hypotension complicates up to 10% of epidural blocks given during labor, but if considered early, can be easily prevented and treated. The cause of hypotension is sympathetic fiber block that results in vasodilatation of the lower extremity vessels. Blood redistribution to the lower extremities (Choice D) and venous pooling occur. Cardiac output decreases and hypotension results.

(Choice A) Depressed myocardial contractility develops during myocardial infarction and is usually accompanied by chest pain and dyspnea, and the hypotension due to cardiogenic shock has dismal prognosis.

(Choice B) Intravascular fluid loss is typically caused by external or internal hemorrhage, which is unlikely in this case because no obvious source of blood loss is present.

(Choice E) CNS involvement with vasoregulatory center block is a rare, but very dangerous complication of epidural anesthesia. CNS symptoms (e.g., excitation, disorientation, seizure) usually precede cardiovascular symptoms in such a case.

Educational objective:

Hypotension is a common side effect of epidural anesthesia. The cause of hypotension is blood redistribution to the lower extremities and venous pooling.

The correct answer is: . Blood venous pooling

**Question 224**

Not answered

Marked out of 1.00

A 28-year-old G1A1 woman presents to a gynecology clinic with a chief complaint of reduced menstrual flow for the past 6 months, especially last month. She denies any pain with menstruation or irregularity in her cycle. She says that she had an elective termination by dilation and curettage approximately 9 months ago. She is sexually active with one partner and always uses condoms. Review of her records indicates a past history of abnormal Papanicolaou (Pap) smears, but she has not been followed recently. She denies any history of irregular menses, and says that age of menarche was 13 years. She takes no medications. Physical examination reveals a normally developed 68-kg (150lb) woman who is 183 cm (6') tall. She is in no acute distress. A  $\beta$ -human chorionic gonadotropin test from her original visit 1 week ago is negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ Asherman's syndrome
- ☐ Cervical stenosis
- ☐ Hypogonadotropic hypogonadism
- ☐ Endometrial cancer
- ☐ Kallmann's syndrome

Asherman's syndrome is an etiology of secondary amenorrhea or hypomenorrhea characterized by the presence of intrauterine synechiae. It is usually caused by instrumentation of the uterine cavity, as is the case status-post dilation and curettage or an elective termination of pregnancy.

Asherman's syndrome, although uncommon, is the most likely diagnosis given the patient's elective termination. Also, the other choices are unlikely given the patient's history. The diagnosis is confirmed by hysteroscopy.

Answer B is incorrect. Cervical stenosis is a cause of secondary amenorrhea. It may be due to congenital, inflammatory, or neoplastic causes, but the cause is usually surgical. Surgical operations such as electrocoagulation, cryotherapy, laser vaporization, conization, or cervical amputation are normally the culprits. Cervical stenosis can result in complete or partial obstruction of menstrual flow, causing amenorrhea or hypomenorrhea. It is usually diagnosed by pelvic ultrasound.

Answer C is incorrect. Endometrial cancer usually presents in older women as postmenopausal vaginal bleeding.

Answer D is incorrect. Hypogonadotropic hypogonadism is a cause of hypomenorrhea and is common in anorexic patients, athletes who train excessively, and in genetic disorders such as Kallman's syndrome. This

patient's history does not suggest any of these causes.

Answer E is incorrect. Kallmann's syndrome is a cause of hypogonadotropic hypogonadism due to insufficient secretion of gonadotropin-releasing hormone by the hypothalamus. Diagnosis is characterized by hypogonadism and one or more nongonadal abnormalities including anosmia, red-green color blindness, cleft palate, urogenital abnormalities, or neurosensory hearing loss.

Answer F is incorrect. Pregnancy should always be considered in cases of reduced or absent menstrual flow, but it is unlikely in the presence of a negative  $\beta$ -human chorionic gonadotropin test.

The correct answer is: Asherman's syndrome

**Question 225**

Not answered

Marked out of 1.00

A 23-year-old woman presents to your office with the complaint of a red splotchy rash on her chest that occurs during intercourse. It is nonpuritic and painless. She states that it usually resolves within a few minutes to a few hours after intercourse. Which of the following is the most likely cause of the rash?

Select one:

- ☐ . Vasocongestion during the orgasmic phase
- ☐ . Increased estrogen during the excitement phase
- ☐ . Vasocongestion during the excitement phase
- ☐ . Decreased systolic blood pressure during the plateau phase
- ☐ . Allergic reaction to her partner's pheromones

(Katz, pp 184-185.) The response of women to sexual stimulation is generalized and affects many different organ systems. During the excitement or seduction phase, vasocongestion leads to breast engorgement and the development of a rash on the breasts, chest, and epigastric area, which is called the "sex flush." Heart rate and blood pressure also increase during this phase. Vasocongestion also occurs in the clitoris, labia, and vagina, and a transudative lubricant develops in the vagina. The plateau phase is marked by greater vasocongestion throughout the body and retraction of the clitoris. During the orgasmic phase, the sexual tension is released via muscular contractions throughout the body, but notably in the vagina, anus, and uterus. Changes in hormones such as estrogen are not part of the sexual response. The correct answer is: . Vasocongestion during the excitement phase



**Question 226**

Not answered

Marked out of 1.00

A 24-year-old G2P2 woman presents to the emergency department complaining of vaginal bleeding and abdominal cramping. She is sexually active in a monogamous relationship with her husband. Her last menstrual period was 6 weeks ago. The patient is afebrile, and vital signs are within normal limits. Pelvic examination is notable for a dilated cervix, fetal tissue in the vaginal vault, and no cervical motion tenderness. Which of the following is the most likely cause of this patient's abortion?

Select one:

- ☐ Chromosomal abnormality
- ☐ Maternal smoking
- ☐ Maternal exposure to environmental chemicals
- ☐ Trauma
- ☐ Acute maternal infection

Chromosomal abnormalities, most commonly aneuploidy, account for approximately 50% of all miscarriages, particularly those occurring prior to 12 weeks' gestation.

Answer A is incorrect. Acute maternal infection, particularly toxoplasmosis, herpes simplex, or rubella can increase the chances of early pregnancy loss. However, it is not the most common cause of miscarriage.

Answer C is incorrect. Exposure to certain environmental chemicals can also increase the chances of pregnancy loss. However, this is not the most common etiology.

Answer D is incorrect. Heavy maternal smoking is associated with an increase in pregnancy loss; however, the rate of increase of spontaneous abortions associated with smoking (approximately 24%) is much less significant than the number of spontaneous abortions associated with chromosomal abnormalities (>50%). Therefore, smoking is a possible cause of the abortion, but it is not the most likely cause.

Answer E is incorrect. The uterus at an early gestational age is protected from blunt trauma due to its small size. However, trauma from a gynecologic or obstetric procedure can induce a miscarriage. This patient does not report any such history.

The correct answer is: Chromosomal abnormality

**Question 227**

Not answered

Marked out of 1.00

A 25-year-old female presents to the physician's office for evaluation of infertility. Her menstrual periods are regular. She has mild chronic pelvic pain. Her husband's semen analysis is within normal limits. She has no history of sexually transmitted diseases in the past. Her temperature is 37.2 C (98.9 F), and her blood pressure is 120/72 mmHg. Physical examination shows a normal sized uterus and enlarged left adnexae. Ultrasonography shows a homogeneous mass on the left ovary, but is otherwise normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Pelvic congestion syndrome
- ☐ . Ovarian malignancy
- ☐ . Adenomyosis
- ☐ . Chronic pelvic inflammatory disease
- ☐ . Endometriosis

Endometriosis is a benign condition where foci of endometrial glandular and stromal tissue are found in locations outside the uterus. These foci react to hormonal stimuli in the same manner as the endometrium does, and thus increase in size throughout the menstrual cycle and bleed when the hormonal stimuli is suspended. The most frequently affected sites are the ovaries, the peritoneal surfaces of the cul-de-sac, the broad and uterosacral ligaments and the rectovaginal septum, but any site including the bladder, intestine and skin may be involved though far less commonly.

Patients present most frequently with dysmenorrhea, dyspareunia (when the endometriomas are located in the cul-de-sac, the fornices or the uterosacral ligaments), dyschezia (pain on defecation), hematochezia, hematuria, and premenstrual or postmenstrual spotting. Endometriosis can also result in subfertility or infertility. Physical examination may reveal a tender adnexal mass or firm nodularity in the broad ligaments, the uterosacral ligament or in the cul-de-sac. Ultrasound examination may demonstrate homogenous endometriomas on the adnexae or within the peritoneal or pelvic regions. The diagnosis can only be made with certainty by laparoscopic examination of the pelvis and peritoneum.

(Choice B) A malignancy of the ovary is a possible cause of infertility, but ovarian cancer is typically a disease of perimenopausal women. Additionally, this patient's clinical presentation is most typical of endometriosis .

(Choice C) Chronic PIO can cause adhesions within the uterus or the uterine tubes and may be responsible for chronic pelvic pain and infertility. The patient does not have a history of PIO and has no fever or any other systemic symptoms consistent with this diagnosis.

(Choice D) Adenomyosis is the presence of endometrial glands in the uterine muscle. It occurs most frequently in women above 40 and typically presents with secondary dysmenorrhea and menorrhagia. The physical examination reveals an enlarged and generally symmetrical uterus.

(Choice E) Pelvic congestion syndrome is a cause of chronic pelvic pain but would not cause ovarian abnormalities.

(Choice F) A submucosal uterine fibroid may cause irregular menstrual bleeding, dysmenorrhea and impaired fertility; these tumors are most commonly asymptomatic.

Educational objective:

Endometriosis is a cause of subfertility and infertility. Women may be asymptomatic, but typically experience pelvic pain, dyspareunia and pain with defecation.

The correct answer is: . Endometriosis

**Question 228**

Not answered

Marked out of 1.00

A 40-year-old G4P5 at 39 weeks gestation has progressed rapidly in labor with a reassuring fetal heart rate pattern. She has had an uncomplicated pregnancy with normal prenatal labs, including an amniocentesis for advanced maternal age. The patient begins the second stage of labor and after 15 minutes of pushing starts to demonstrate deep variable heart rate accelerations. You suspect that she may have a fetus with a nuchal cord. You expediently deliver the baby by low-outlet forceps and hand the baby over to the neonatologists called to attend the delivery. As soon as the baby is handed off to the pediatric team, it lets out a strong spontaneous cry. The infant is pink with slightly blue extremities that are actively moving and kicking. The heart rate is noted to be 110 on auscultation. What Apgar score should the pediatricians assign to this baby at 1 minute of life?

Select one:

- ☐ . 9
- ☐ . 6
- ☐ . 10
- ☐ . 8
- ☐ . 7

Check

(Cunningham, pp 637-638.) The Apgar scoring system, applied at 1 minute and again at 5 minutes, was developed as an aid to evaluate infants who require resuscitation. Heart rate, respiratory effort, muscle tone, reflex, irritability, and color are the five components of the Apgar score. A score of 0, 1, or 2 is given for each of the five components, and the total is added up to give one score. The table below demonstrates the scoring system.

Sign	0 Points	1 Point	2 Points
Heart rate	Absent	Below 100	More than 100
Respiratory effort	Absent	Slow, irregular	Good, crying
Muscle tone	Flaccid	Some extremity flexion	Active motion
Reflex irritability	No response	Grimace, feeble cry when stimulated	Sneeze/cough/pulls away when stimulated
Color	Blue, pale	Body pink, extremities blue	Completely pink, no cyanosis

The baby described here receives an Apgar score of 9. One point is deducted for the baby not being completely pink and having blue extremities.

The correct answer is: . 9

### Question 229

Not answered

Marked out of 1.00

A 31-year-old woman with systemic lupus erythematosus who is 4 weeks pregnant presents to her obstetrician for her first prenatal visit. She is very concerned that the lupus will affect her baby. She was diagnosed with systemic lupus erythematosus 5 years ago and her symptoms have been well controlled with low-dose prednisone. She has baseline renal insufficiency, with a creatinine level of 1.3 mg/dL that has been stable for the past 6 months. This is her first pregnancy. For which of the following is the baby at increased risk?

Select one:

- ☐ Ebstein's anomaly
- ☐ Acute renal failure
- ☐ Chorioretinitis
- ☐ Complete heart block
- ☐ Rash

[Check](#)

Neonatal lupus is caused by passive transfer of anti-Ro/SSA and/ or anti-La/SSB antibodies. The disorder can occur in babies born to mothers with lupus, Sjögren's syndrome, or in women with no prior history of autoimmune disease. Not all women with systemic lupus erythematosus (SLE) have these autoantibodies, so screening should be done at the beginning of prenatal care to determine the risk of neonatal lupus and the need for monitoring. The most serious complication of neonatal lupus is complete heart block. Neonatal lupus is the most common cause of congenital complete heart block. Fetuses at risk of neonatal lupus should have regular Doppler echocardiography to screen for the development of heart block.

Answer A is incorrect. Babies born to mothers with SLE are not at increased risk of developing renal abnormalities or acute renal failure. However, women with baseline lupus nephritis are at increased risk of developing progressive renal disease during pregnancy due to an increased burden placed on maternal kidneys.

Answer B is incorrect. Chorioretinitis is typically seen in babies with congenital infections such as toxoplasmosis and cytomegalovirus. Toxoplasmosis also presents with hydrocephalus and intracranial calcifications. Cytomegalovirus infection presents with microcephaly, hepatosplenomegaly, respiratory distress, and seizures.

Answer D is incorrect. Ebstein's anomaly is a congenital cardiac defect consisting of malformation of the tricuspid valve and right ventricle. It occurs more frequently in infants born to mothers who took lithium during pregnancy. It is not associated with maternal SLE.

Answer E is incorrect. Most babies with neonatal lupus have a rash, usually consisting of erythematous annular lesions on the scalp and periorbital area. However, the rash is typically mild and resolves by 6–8 months of age.

The correct answer is: Complete heart block

**Question 230**

Not answered

Marked out of 1.00

A 54-year-old woman comes to the physician for an annual examination. She has no complaints. For the past year, she has been taking tamoxifen for the prevention of breast cancer. She was started on this drug after her physician determined her to be at high risk on the basis of her strong family history, nulliparity, and early age at menarche. She takes no other medications. Examination is within normal limits. Which of the following is this patient most likely to develop while taking tamoxifen?

Select one:

- ☐ . Osteoporosis
- ☐ . Myocardial infarction
- ☐ . Breast cancer
- ☐ . Endometrial changes
- ☐ . Elevated LDL cholesterol

Check

Tamoxifen is a nonsteroidal agent with both pro- and antiestrogenic properties. It was first approved in 1977 by the U.S. Food and Drug Administration for use in postmenopausal women with advanced breast cancer. Since that time, it has been approved for many other uses related to breast cancer: as adjuvant therapy in postmenopausal women with resected node-positive disease, in postmenopausal women with metastatic breast cancer, and as adjuvant therapy in women (pre- and postmenopausal) with resected node-negative disease. Recently, much attention has been focused on its use for breast cancer prevention. There is evidence that women at high risk for the development of breast cancer may reduce their risk by taking tamoxifen. However, although tamoxifen appears to be antiestrogenic at the level of the breast, it appears to act in a proestrogenic fashion at the level of the endometrium. Many women on tamoxifen will develop endometrial changes, including polyp formation, hyperplasia, and frank invasive carcinoma. Thus, women on tamoxifen need to be followed carefully, and prompt evaluation of abnormal vaginal bleeding should be conducted. Tamoxifen is used to prevent breast cancer (choice A). Tamoxifen, like estrogen, has been shown to lower blood levels of LDL cholesterol (choice B). Women on tamoxifen appear to be at no greater risk, and may be at a lower risk, for the development of myocardial infarction (choice D). Tamoxifen, like estrogen, has been shown to increase bone density and to reduce the likelihood of development of osteoporosis (choice E).

The correct answer is: . Endometrial changes

**Question 231**

Not answered

A 28-year-old male comes for evaluation of infertility. He has been healthy and otherwise has no complaints. He says the he eats a high protein diet and exercises daily in order to be muscular. He weighs 85 kg (187 lb) and is

Marked out of 1.00

175cm (70 in) tall. His temperature is 37.2 C (98.9 F), and his blood pressure is 130/82 mmHg. Physical examination shows small testes. The remainder of the examination is unremarkable. Initial laboratory studies show:

Hemoglobin: 16.0 g/L,

Platelets: 200,000/mm<sup>3</sup>,

Leukocyte count: 4,500/mm<sup>3</sup>,

Serum creatinine: 1.4 mg/dl,

Serum LH: low,

Serum testosterone: low.

Which of the following is the most likely cause of his infertility?

Select one:

- ☐ . Varicocele
- ☐ . Exogenous steroid use
- ☐ . Myotonic dystrophy
- ☐ . Klinefelter syndrome
- ☐ . Mumps orchitis

Check

The patient described is most likely abusing anabolic steroids (testosterone analogs). Adverse effects associated with anabolic steroid abuse include acne, erythrocytosis, gynecomastia, azoospermia, decreased testicular size, cholestasis, hepatic failure and dyslipidemia. Behavioral effects include aggressiveness and psychotic symptoms. The mechanism for azoospermia in men abusing these agents is likely a decrease in GnRH production by the hypothalamus due to feedback inhibition by the exogenous testosterone analog. Decreased GnRH leads to decreased LH and FSH production; LH and FSH are trophic on the testes and are required for normal hormone and sperm production by the testes.

(Choice A) Klinefelter syndrome (XXY seminiferous tubule dysgenesis) is an inherited disorder characterized by testicular fibrosis (primary hypogonadism), azoospermia, gynecomastia, decreased intelligence and decreased axial skeletal growth. FSH and LH will be high.

(Choice B) Mumps orchitis is a potential cause of infertility. It is characterized by acute testicular pain and inflammation during the acute viral illness.

(Choice D) Myotonic dystrophy is characterized by testicular atrophy as well as widespread muscular atrophy and weakness.

(Choice E) Varicocele results in scrotal swelling with a "bag of worms" sensation on palpation.

(Choice F) Cryptorchidism manifests in infancy with failure to be able to palpate two testes in the scrotum. Such patients are at an increased risk of testicular cancer.

(Choice G) Testicular torsion produces acute testicular pain.

(Choice H) Chronic medical illness typically results in anemia of chronic disease, not erythrocytosis.

Educational objective:

Anabolic steroid use by a male can produce infertility by suppressing the production of GnRH, LH and FSH.

The correct answer is: . Exogenous steroid use

**Question 232**

Not answered

Marked out of 1.00

You are asked to consult on a 31-year-old woman who is at 26 weeks' gestation and who has had fever for 2 days. She states that she starting feeling fevers and chills approximately 3 days ago. These symptoms have worsened since that time and she has also experienced myalgias, back pain, malaise, and upper respiratory complaints. She was initially diagnosed with the flu, but her condition seems to be worsening. Her prenatal course has been otherwise uncomplicated. She has no past medical or surgical history. Her past obstetric history is significant for a normal spontaneous vaginal delivery 3 years ago. She takes no medications and is allergic to sulfa drugs. Her physical examination is significant for a temperature of 38.3 C (101.0 F) and mild abdominal tenderness. Her urine culture is negative. Her obstetrician performed an amniocentesis yesterday that demonstrated gram-positive rods. Which of the following is the most likely causative organism?

Select one:

- ☐ . Escherichia coli
- ☐ . Lactobacillus bulgaricus
- ☐ . Clostridium difficile
- ☐ . Listeria monocytogenes
- ☐ . Neisseria gonorrhoeae

Check

Listeria monocytogenes is a motile, non-spore-forming, gram-positive rod that has a tendency to infect pregnant women, newborns, and immunocompromised patients. It can occur in epidemics and has been associated with the consumption of contaminated dairy products. Listeriosis is the disease caused by infection with Listeria monocytogenes. Most women



with listeriosis remain asymptomatic or only mildly symptomatic. Symptoms, when they do occur, resemble those seen in a mild flu-like illness. Patients with symptomatic listeriosis complain of fever, chills, myalgias, back pain, and upper respiratory complaints. Unfortunately, whereas maternal symptoms are often mild, fetal effects can be devastating. Intrauterine infection leads to high fetal morbidity and mortality. Treatment is with ampicillin and gentamicin. Although many physicians would opt to deliver the fetus or terminate the pregnancy once listeriosis is identified, case reports suggest that antibiotic treatment without delivery of the fetus can be successful and result in a healthy mother and fetus.

*Clostridium difficile* (choice A) is a gram-positive anaerobic bacterium that is the major cause of colitis and antibiotic-associated diarrhea. It is not commonly associated with chorioamnionitis.

*Escherichia coli* (choice B) is part of the normal flora of the human intestinal tract. It is also known to cause a large number of illnesses in humans, however, including urinary tract infections, pneumonia, meningitis, diarrhea, and others. It is a gram-negative organism, not a gram-positive rod (as is *Listeria monocytogenes*).

*Lactobacillus bulgaricus* (choice C) is a gram-positive rod and one of the most common organisms used in the manufacture of yogurt. It is not considered to be pathogenic.

*Neisseria gonorrhoeae* (choice E) is a gram-negative organism. This patient has gram-positive rods in her amniotic fluid. The most likely causative organism therefore is *Listeria monocytogenes* and not *Neisseria gonorrhoeae*.

The correct answer is: . *Listeria monocytogenes*

**Question 233**

Not answered

Marked out of 1.00

A 15-year-old girl is being evaluated for primary amenorrhea. She is otherwise healthy and has no previous medical problems. Vital signs are within normal limits. Physical examination reveals normal breast development, normal pubic and axillary hair, and a blind vagina; the uterus and adnexae could not be appreciated. Pelvic ultrasonography reveals 2 ovaries and no uterus is seen. The karyotype is 46 XX. Which of the following is the most likely diagnosis?

Select one:

- ☐ . 5-alpha-reductase deficiency
- ☐ . Androgen insensitivity
- ☐ . Mullerian agenesis
- ☐ . Turner's syndrome
- ☐ . Imperforate hymen

[Check](#)

This patient has a female phenotype but lacks a normal vagina and uterus, which narrows the etiology of her primary amenorrhea to mullerian agenesis, androgen insensitivity, or 5-alpha-reductase deficiency. The karyotype is the determining test, with both androgen insensitivity and 5-alpha-reductase deficiency being seen in patients with a XY genotype. This patient's genotype is XX, which leaves mullerian agenesis as the best explanation for her condition. The mullerian duct normally leads to the development of the proximal vagina and the uterus; therefore patients with mullerian agenesis normally have a blind ended vagina with little to no uterine tissue.

(Choice B) Patients with androgen insensitivity have a male XY genotype but there is an abnormality in the androgen receptor. The external genitalia develop as female, but mullerian inhibiting factor is still secreted by the testes which prevents the development of internal female organs.

(Choice C) Patients with 5-alpha-reductase deficiency cannot convert testosterone to the more potent dihydrotestosterone (DHT). They have a male XY genotype and female external genitalia, but typically show virilization at puberty.

(Choice D) An imperforate hymen can cause primary amenorrhea but can generally be distinguished from mullerian agenesis by the distal location of the vaginal blockage. Patients have a normal uterus on ultrasound.

(Choice E) Patients with Turner's syndrome have a XO genotype and do not have normal ovaries on ultrasound.

Educational objective:

Patients with mullerian agenesis have a blind ended vaginal pouch with little or no uterine tissue and a XX genotype.

The correct answer is: . Mullerian agenesis

**Question 234**

Not answered

Marked out of 1.00

A 45-year-old woman has bilateral breast pain that is most severe premenstrually. On palpation, there is excessive nodularity, tenderness, and cystic areas that diminish in size after menses. Which of the following is the most likely diagnosis?

Select one:

- ☐ breast cancer
- ☐ engorgement attributable to increased prolactin
- ☐ fibrocystic disease
- ☐ fibroadenomas
- ☐ intraductal papilloma

The classic symptom of fibrocystic breast disease is cyclic bilateral breast pain. The pain and associated diffuse breast engorgement is most severe premenstrually. Cystic changes palpated premenstrually typically are smaller postmenstrually. Fibroadenomas are firm, rubbery, freely mobile, solid, and usually solitary masses. Intraductal papilloma does not cause diffuse breast symptoms. Spontaneous and intermittent nipple discharge is the classic sign of an intraductal papilloma. Intraductal carcinoma is more likely if there is a discharge from multiple ducts. Breast cancer should be suspected when a solitary firm nodule does not change throughout the menstrual cycle. A mammogram is helpful, but any suspicious mass should be biopsied. Hyperprolactinemia can cause breast engorgement, but the pain is usually mild, and cystic areas tend not to vary in size. (Scott et al., 2003, p. 898)

The correct answer is: fibrocystic disease

**Question 235**

Not answered

Marked out of 1.00

A 23-year-old woman complains of breast pain two days after delivering her first child. The delivery was complicated by mild postpartum bleeding. On exam, both breasts are tense, warm, and tender to touch. Her blood pressure is 130/70 mmHg, heart rate is 100/min, and temperature is 99.4 F (37.4 C). What is the most likely diagnosis?

Select one:

- ☐ . Superficial vein thrombosis
- ☐ . Mastitis
- ☐ . Breast engorgement

- ☐ . Plugged ducts
- ☐ . Breast abscess

Check

This woman has breast engorgement, common in the first 24 to 72 hours after childbirth secondary to milk accumulation. While it may occur at any point during breast feeding, it is especially common early in the postpartum period when milk production is particularly robust. Symptoms include breast fullness, tenderness, and warmth. It typically peaks 3 to 5 days postpartum and improves spontaneously in most patients. Cool compresses, acetaminophen, and NSAIDs may be used for symptom control.

(Choice A) Mastitis is a breast infection that causes unilateral breast pain with an isolated firm, tender, erythematous area accompanied by fever greater than 38.3° C. It is distinguished from plugged ducts by the presence of fever. Anti-staphylococcal agents are first-line therapy. This patient has bilateral, not unilateral, symptoms, which would be unusual for mastitis.

(Choice B) Breast abscesses are rare and present similarly to mastitis but with a palpable, fluctuant mass. They are treated with antibiotics and drainage.

(Choice D) Plugged ducts present similarly to mastitis but lack fever or systemic symptoms. They are treated by improving the quality of breastfeeding. Persistently plugged ducts resulting in galactoceles may be treated with aspiration.

(Choice E) Superficial vein thrombosis can cause tenderness and localized erythema but is unlikely to cause bilateral tense breasts.

Educational objective:

Breast engorgement is a common problem associated with breast feeding. Characterized by bilateral breast tenderness and swelling, it typically presents 24 to 72 hours post partum, peaks 3 to 5 days after delivery, and resolves spontaneously.

The correct answer is: . Breast engorgement

**Question 236**

Not answered

Marked out of 1.00

A 27-year-old woman, gravida 2, para 2, comes to the physician to have her staples removed after an elective repeat cesarean delivery. Her pregnancy course was uncomplicated. She states that she is doing well except that since the delivery she has noticed some episodes of sadness and tearfulness. She is eating and sleeping normally and has no strange thoughts or thoughts

of hurting herself or others. Physical examination is within normal limits for a patient who is status post cesarean delivery. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Maternity blues
- ☐ . Postpartum psychosis
- ☐ . Poststerilization depression
- ☐ . Postpartum mania
- ☐ . Postpartum depression

Check

Maternity blues is the term used to describe a common postpartum reaction that occurs in 50 to 70% of postpartum patients. It is characterized by tearfulness, restlessness, and anxiety. Symptoms typically start in the first few days postpartum and resolve within 2 weeks. However, certain patients continue to have the symptoms for several weeks. Many symptoms may be seen in association with this disorder including headache, backache, fatigue, forgetfulness, insomnia, weeping, depression, anxiety, and negative feelings toward the newborn infant. Interestingly, another component of the syndrome may be episodes of elation, and such mood lability can be especially distressing for the new mother. It is unclear what the etiology of these symptoms is. Certainly, the postpartum period with a newborn can be stressful and life changing, which can certainly lead to mood changes and a number of emotional responses. Some researchers have argued that changes in hormone levels are at the root of the maternity blues, but this has never been definitively proven. This patient does not have evidence of a true postpartum depression (e.g., insomnia, lack of appetite, or anhedonia) or postpartum psychosis (e.g., bizarre thoughts) and she does not have any thoughts of hurting herself or her baby.

Therefore, the most likely diagnosis is maternity blues and she should be given support and reassurance. The patient must also be cautioned, however, that if her symptoms do not resolve, or if they worsen, then she must call or return. Postpartum depression (choice B) is a depression that occurs in about 10% of postpartum women and it is more serious than the maternity blues. Symptoms may include sleep disturbances and changes in appetite. Postpartum mania (choice C) or postpartum psychosis (choice D) is a

psychiatric disorder that occurs in about 1 per 1,000 deliveries. It is characterized by severe anxiety, agitation, disordered thoughts, and confusion. Hospitalization is required. Poststerilization depression (choice E) is a depression that is seen in women following a tubal ligation or other form of permanent sterilization. This patient did not have a sterilization procedure.

The correct answer is: . Maternity blues

**Question 237**

Not answered

Marked out of 1.00

At 38 weeks' gestation, a 4030-g (8.9-lb) boy is delivered by spontaneous vaginal delivery. During the first minute of life he is limp, cyanotic, lacks respiratory effort, has a heart rate of 95/min, flexes his extremities, and grimaces to nasal suctioning. By 5 minutes, he continues to grimace to nasal suctioning, has a weak cry, is well perfused with a heart rate of 160/min, and is kicking both legs. Based on his Apgar scores, when will the child need to be resuscitated?

Select one:

- ☐ Not indicated at 1 or 5 minutes
- ☐ Not enough information to determine
- ☐ Indicated at 5 minutes and not at 1 minute
- ☐ Indicated at 1 minute and not at 5 minutes
- ☐ Indicated at 1 and 5 minutes

His Apgar scores are 3 and 8 at 1 and 5 minutes, respectively. Apgar scoring is a standardized method of summarizing an infant's overall condition at birth and predicting which infants are going to require resuscitation. Apgar scores of 0 to 3 indicate the need for immediate resuscitation, either bag-mask ventilation or intubation. Apgar scores of 8–10 indicate good cardiopulmonary adaptation. Apgar scores of 4–7 indicate possible need for resuscitation.

Answer A is incorrect. An Apgar score of 8 does not indicate a need for resuscitation.

Answer C is incorrect. An Apgar score of 8 does not indicate a need for resuscitation; however, a score of 3 indicates the need for immediate resuscitation.

Answer D is incorrect. The information necessary to determine Apgar scores and the need for resuscitation are provided.

Answer E is incorrect. An Apgar score of 3 indicates the need for immediate resuscitation.

The correct answer is: Indicated at 1 minute and not at 5 minutes

**Question 238**

Not answered

Marked out of 1.00

A mother brings her 5-year-old daughter to the family physician. The girl is of appropriate height and weight for age. The girl shows changes of early breast development and has had vaginal bleeding. These changes have occurred suddenly. Pelvic examination under sedation reveals a normal vagina, but a sonogram shows a 4 cm unilateral, solid pelvic mass. There is no family history of such events. Which of the following is the most likely diagnosis?

Select one:

- ☐ Mucinous cystadenoma
- ☐ Sertoli-Leydig cell tumor
- ☐ Granulosa cell tumor
- ☐ Benign cystic teratoma
- ☐ Gonadoblastoma

The case scenario describes a child undergoing isosexual (in the expected direction for a female), complete (evidence of all pubertal changes), precocious (prior to the age of 8) puberty with the finding of a unilateral pelvic mass. This must be assumed to be a hormonally functional ovarian tumor producing estrogen, such as a granulosa cell tumor (choice N), until proved otherwise. Management is exploratory laparotomy for possible ovarian cancer staging and surgical removal.

The correct answer is: Granulosa cell tumor



**Question 239**

Not answered

Marked out of 1.00

A 51-year-old woman presents with an ill-defined, slightly firm area in the upper outer quadrant of her right breast. The clinician thinks this area is consistent with fibrocystic change, but a biopsy from this area has a focus of lobular carcinoma in situ. Which of the following histologic features is most characteristic of this lesion?

Select one:

- ☐ . Small tumor cells with little cytoplasm infiltrating in a single-file pattern
- ☐ . Small individual malignant cells dispersed within extracellular pools of mucin
- ☐ . Expansion of lobules by monotonous proliferation of small cells
- ☐ . Large cells with clear cytoplasm within the epidermis
- ☐ . Large syncytium-like sheets of pleomorphic cells surrounded by aggregates of lymphocytes

(Kumar, pp 1082-1083, 1085-1087. Rubin, pp 850-852.) Lobular carcinoma of the breast, both in situ and invasive, is an important lesion clinically because of its tendency to occur multicentrically within the same breast and also because of its association with a high frequency of disease (both ductal and lobular carcinoma) in the opposite breast. Lobular carcinoma in situ is characterized histologically by a monotonous proliferation of small cells of the terminal duct lobular unit that fills and expands the lobules. Unlike the case with intraductal carcinoma, papillary and cribriform structures are not formed and neither is central necrosis present.

Invasive lobular carcinoma is distinguished by its tendency to infiltrate the stroma in a single file. This pattern is not seen with invasive ductal carcinoma, which tends to cause a marked desmoplastic response, causing a scirrhous carcinoma. Infiltrating lobular carcinomas also form concentric “targets” around ducts, and they have an increased frequency of being estrogen receptor-positive.

In contrast to the histologic appearance of infiltrating lobular carcinoma, Paget disease is characterized by infiltration of the epidermis by malignant cells with clear cytoplasm. Histologic sections of a medullary carcinoma of the breast reveal large syncytium-like sheets of pleomorphic cells surrounded by aggregates of lymphocytes, while colloid breast carcinoma shows small individual malignant cells dispersed within extracellular pools of mucin.

The correct answer is: . Expansion of lobules by monotonous proliferation of small cells

**Question 240**

Not answered

Marked out of 1.00

An 18-year-old G0 comes to see you complaining of a 3-day history of urinary frequency, urgency, and dysuria. She panicked this morning when she noticed the presence of bright red blood in her urine. She also reports some midline lower abdominal discomfort. She had intercourse for the first time 5 days ago and reports that she used condoms. On physical examination, there are no lacerations of the external genitalia, there is no discharge from the cervix or in the vagina, and the cervix appears normal. Bimanual examination is normal except for mild suprapubic tenderness. There is no flank tenderness, and the patient's temperature is normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Chlamydia cervicitis
- ☐ . Pyelonephritis
- ☐ . Monilial vaginitis
- ☐ . Acute cystitis
- ☐ . Acute appendicitis

Check

(Katz, pp 545-551. Beckmann, pp 297-298.) Approximately 15% to 20% of women develop urinary tract infections (cystitis) at some point during their lives. Cystitis is diagnosed when a clean-catch urine sample has a concentration of at least 100,000 bacteria per mL of urine and when the patient suffers the symptoms of dysuria, frequency, urgency, and pain. The most common etiology of urinary tract infections (UTIs) is *E. coli*. Treatment of a UTI involves obtaining a culture and starting a patient on an antibiotic regimen of sulfa or nitrofurantoin, which have good coverage against *E. coli* and are relatively inexpensive. Patients treated for a UTI should have a follow-up culture done 10 to 14 days after the initial diagnosis to document a cure. Patients treated for a UTI, who have persistent symptoms after treatment should have a urine culture performed to evaluate for the presence of resistant organisms. Patients with acute pyelonephritis may be treated on an outpatient basis unless they cannot tolerate oral antibiotic therapy or show evidence of sepsis. Women who experience recurrent UTIs with intercourse benefit from voiding immediately after intercourse. If this treatment method fails, then prophylactic treatment with an antibiotic effective against *E. coli* may help prevent recurrent UTIs. Urinary antispasmodics do not prevent infection.

The correct answer is: . Acute cystitis

**Question 241**

Not answered

Marked out of 1.00

A 28-year-old primigravid woman at 34 weeks gestation is brought to the emergency department following a motor vehicle accident. She had intense abdominal pain and became agitated and restless in the ambulance. She has mild vaginal bleeding and diffuse abdominal pain. She is on continuous fetal heart monitoring. Her prenatal course, prenatal tests and fetal growth have been normal. Prenatal ultrasound at the 16th week showed no abnormalities and an intrauterine gestation consistent with dates. Her blood pressure is 110/60mmHg, pulse is 110/min and respirations are 32/min. Physical examination shows hyperventilation, cold extremities and a distended abdomen with irregular contours. Fetal heart monitoring shows repetitive late decelerations and a long-term variability of 2 cycles/min. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Vasa previa
- ☐ . Abruptio placenta
- ☐ . Placenta previa
- ☐ . Uterine rupture
- ☐ . Rupture of ectopic pregnancy

The patient most likely has a uterine rupture secondary to abdominal trauma. Typically, uterine rupture presents with intense abdominal pain associated with vaginal bleeding which can range from spotting to massive hemorrhage. The symptoms the patient had in the ambulance correspond with pain and may indicate an imminent rupture. After the rupture occurs, the patient may feel slightly relieved, but soon after, the pain returns in a more diffuse fashion. The presenting part may retract and no longer be palpable on pelvic exam, whereas the fetal limbs can become easily palpable on abdominal examination. The clinical presentation is, however, highly variable, so a high index of suspicion is required because any delay in diagnosis may be fatal for both the mother and the fetus.

(Choice A) Uterine rupture can be difficult to distinguish from abruptio placenta, especially because they can both be caused by trauma. The abdominal physical findings in this case clearly indicate a uterine rupture, and uterine rupture is more likely to cause signs of hypovolemia and shock due to rapid exsanguination.

(Choice B) Placenta previa typically presents with painless vaginal bleeding and does not generally lead to signs of rapid exsanguination as described.

(Choice C) Vasa previa is a rare condition in which the fetal blood vessels traverse the fetal membranes across the lower segment of the uterus between the fetus and the internal cervical os. It presents with a painless antepartum hemorrhage associated with rapid deterioration of the fetal heart tracing as it is fetal blood that is being lost in this condition.

(Choice E) Rupture of an ectopic pregnancy occurs most commonly in the first trimester. The patient described had a normal ultrasound at 16 weeks gestation.

Educational objective:

Uterine rupture presents with intense abdominal pain associated with vaginal bleeding which can range from spotting to massive hemorrhage. Patients also typically exhibit vital signs consistent with hypovolemia, retraction of presenting parts on pelvic exam, and palpability of fetal extremities on abdominal exam.

The correct answer is: . Uterine rupture

**Question 242**

Not answered

Marked out of 1.00

A 24-year-old woman has a MSAFP of 0.5 MOM (multiples of the median) at 17 weeks' gestation. Which of the following fetal abnormalities is most likely to occur with this MSAFP?

Select one:

- ☐ gastroschisis
- ☐ omphalocele
- ☐ spina bifida
- ☐ trisomy 21
- ☐ bladder exstrophy

Production of AFP begins in the yolk sac and then moves to the fetal liver and, to a lesser extent, the fetal gastrointestinal tract. Choices (A) through (D) result in an increased maternal serum AFP (MOM greater than 2.0) because all are open defects of the fetus that result in an increase in amniotic fluid concentrations and then maternal serum concentrations of AFP. Trisomy 21 (Down syndrome) is associated with a decreased MSAFP. In clinical practice, measurement of MSAFP is combined with serum chorionic gonadotropin (hCG) and unconjugated estriol (E3). These three tests are commonly called a triple screen or triple marker screen and together improve the sensitivity over each test alone. Approximately 60% of trisomy 21 fetuses in women under age 35 years, and more than 75% in women over 35 will be detected using a multiple marker screening test. Screening for these defects is most sensitive between 16 and 18 gestational weeks, but the test should be offered to all pregnant women between 15 and 22 gestational weeks. (Cunningham et al., 2005, pp. 318–324)

The correct answer is: trisomy 21

**Question 243**

Not answered

Marked out of 1.00

A 19-year-old woman comes to the emergency department and reports that she fainted at work earlier in the day. She has mild vaginal bleeding. Her abdomen is diffusely tender and distended. In addition, she complains of shoulder and abdominal pain. Her temperature is 37.2C, pulse rate is 120 beats per minute, and blood pressure is 80/42 mm Hg. Which of the following is the best diagnostic procedure to quickly confirm your diagnosis?

Select one:

- ☐ . Dilation and curettage
- ☐ . Computed tomography of the abdomen and pelvis
- ☐ . Culdocentesis
- ☐ . Posterior colpotomy
- ☐ . Quantitative  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG)

(Katz, pp 153-155.) The clinical history presented in this question is classic for a ruptured tubal pregnancy accompanied by hemoperitoneum. A CT scan of the abdomen and pelvis would not produce a quick diagnosis. Though often underutilized, culdocentesis is a rapid, nonsurgical method to confirm the presence of unclotted intraabdominal blood from a ruptured tubal pregnancy. Culdocentesis, however, is also not perfect, and a negative culdocentesis should not be used as the sole criterion for whether or not to operate on a patient. Dilation and curettage would not permit rapid enough diagnosis, and the results obtained by this procedure are variable. Posterior colpotomy requires an operating room, surgical anesthesia, and an experienced operator with a scrubbed and gowned associate. While a quantitative  $\beta$ -HCG confirms pregnancy, it would take over an hour to perform in the lab and it does not confirm the diagnosis of hemoperitoneum. A urine pregnancy test could be done more quickly.

The correct answer is: . Culdocentesis

**Question 244**

Not answered

Marked out of 1.00

A 23-year-old woman, gravida 2, para 1, at 38 weeks' gestation was admitted to the delivery room for management of labor. On admission 6-hours ago, the patient was in the active phase of labor and the cervix was 4cm dilated. She was then placed under external tocometer and epidural anesthesia. Contractions were regular, occurring 2-3 minutes apart and lasting 40-60 seconds. She progressed well to 7cm. However, she has remained at 7cm the past 4 hours. The fetus is in the Left Occipita Anterior (LOA) position and at +1 station. Internal pelvic assessment shows prominent ischial spines.

Electronic fetal heart monitoring shows 140 bpm with normal beat-to-beat and long term variability. Prenatal ultrasound at 37-weeks showed no abnormalities. Which of the following is the most likely cause of this patient's anomaly of labor?

Select one:

- ☐ . Injudicious analgesia
- ☐ . Inlet dystocia
- ☐ . Midpelvis contraction
- ☐ . Macrosomic baby
- ☐ . Hypotonic uterine contractions

Check

This patient has an arrest disorder of dilation because cervical dilation has been the same for 4 hours (more than 2). Arrest disorder can also be of descent when the descent has not progressed for more than 1 hour. It can be caused by hypotonic contractions, conduction anesthesia, excessive sedation, cephalopelvic disproportion or malpresentation. In the present case, the arrest is resulting from a midpelvic contraction indicated by the prominence of the ischial spines.

(Choice A) The descent of the presenting part is at + 1, indicating that fetus is engaged, and therefore, an unlikeness of inlet dystocia.

(Choice C) Prenatal ultrasound revealed nothing abnormal, so the fetus is not a macrosomic.

(Choice D) Uterine contractions are seemingly normal in this case. Moreover, the internal pelvic assessment evidenced prominent ischial spines, making midpelvic contraction the most likely diagnosis.

(Choice E) The patient was placed under epidural anesthesia in the active phase, so it is unlikely that it is the cause of the arrest. Anesthesia may cause a decrease in the strength of uterine contractions' if it is administered in the latent phase.

Educational Objective:

Midpelvis contraction which is indicated by prominent ischial spines is an important cause of arrest disorder of dilation.

The correct answer is: . Midpelvis contraction

### Question 245

A 48-year-old woman has been married for 8 years and desperately wants to

Not answered

Marked out of 1.00

have a child of her own before it is too late. She consults a new obstetrician for help because she has experienced multiple early secondtrimester losses due to painless cervical dilation leading to expulsion of immature stillborn fetuses. She reports that she was exposed in utero to diethylstilbestrol (DES), explaining that when her mother was pregnant with her she experienced early pregnancy bleeding and, as a consequence, was treated with DES to prevent the pregnancy from being terminated. At this time, this patient is most likely to demonstrate which of the following conditions on physical examination?

Select one:

- ☐ Vaginal adenosis
- ☐ Cervical dysplasia
- ☐ Polycystic ovary syndrome
- ☐ Breast fibroadenoma
- ☐ Müllerian agenesis

Check

Diethylstilbestrol (DES) is a nonsteroidal estrogen that was used between 1940 and 1971 for treatment of threatened spontaneous abortion. Vaginal clear cell adenocarcinoma is the most serious consequence of prenatal DES exposure. However, numerous non-neoplastic uterine and vaginal anomalies also have been reported in women exposed to DES in utero, including cervical insufficiency, as is the case with this patient. Cervical insufficiency is treated with placement of a cervical cerclage at 14–16 weeks' gestation. Columnar epithelium is normally found only around the endocervical canal; in vaginal adenosis (choice C), the columnar epithelium extends onto the vaginal fornices. This condition is found in 4% of normal females, but 30% of women exposed to DES in utero have this condition. It is the most common physical finding observed during pelvic examination of DES-exposed women. During colposcopic examination, the immature metaplastic squamous epithelium of the cervix of these women resembles dysplasia, with a mosaic and punctate appearance. However, histologic examination demonstrates this epithelium is benign; it is not a true dysplasia, thus

choice A is not correct. The following conditions are not associated with prenatal DES exposure: Breast fibroadenoma (choice B), which is the most common breast tumor in young women; müllerian agenesis (choice D), which is characterized by absence of the oviducts, uterus, cervix, and proximal vagina; and polycystic ovary syndrome (choice E), a condition with bilaterally enlarged, smooth ovaries associated with anovulation, infertility, and hirsutism.



The correct answer is: Vaginal adenosis

**Question 246**

Not answered

Marked out of 1.00

You are delivering a 33-year-old G3P2 and encounter a shoulder dystocia. After performing the appropriate maneuvers, the baby finally delivers, and the pediatricians attending the delivery note that the right arm is hanging limply to the baby's side with the forearm extended and internally rotated. Which of the following is the baby's most likely diagnosis?

Select one:

- ☐ . Erb palsy
- ☐ . Clavicular fracture
- ☐ . Humeral fracture
- ☐ . Paralysis from intraventricular bleed
- ☐ . Klumpke paralysis

(Cunningham, pp 513-514. Beckmann, pp 218-220.) Shoulder dystocias can be associated with significant fetal morbidity including brachial plexus palsies, clavicular fractures, and humeral fractures. Fractures of the clavicle and humerus usually heal rapidly and are clinically insignificant. Injury to the brachial plexus may be localized to the upper or lower roots. In Erb (or Erb-Duchenne) palsy, the upper roots of the brachial plexus are injured (C5-6), resulting in paralysis of the shoulder and arm muscles; the arm hangs limply to the side and is extended and internally rotated. In the case of Klumpke paralysis, the lower nerves of the brachial plexus are affected (C7-T1) and the hand is paralyzed.

The correct answer is: . Erb palsy

**Question 247**

Not answered

Marked out of 1.00

A 50-year-old woman presents with fatigue, insomnia, hot flashes, night sweats, and absence of menses for the last 5 months (secondary amenorrhea). Her urine hCG test is negative. Laboratory tests reveal decreased serum estrogen and increased serum FSH and LH levels. Which of the following is the most likely cause of this individual's clinical signs and symptoms?

Select one:

- ☐ . Menopause
- ☐ . Prolactin-secreting tumor of the anterior pituitary
- ☐ . 17-hydroxylase deficiency of the adrenal cortex
- ☐ . Gonadotropin-releasing hormone-secreting tumor of the hypothalamus
- ☐ . Menarche

(Kumar, p 1027. Noble, pp 315-316, 359-364.) Menopause refers to cessation of menstrual cycles in females, while menarche refers to the first menstrual cycle. Characteristics of menopause include elevated gonadotropins (FSH is the best indicator), secondary amenorrhea, hot flashes, decreased vaginal secretions, and night sweats. In addition, atrophy begins in estrogen-dependent tissues, such as the vagina. Gradual loss of bone density can lead to osteoporosis.

The correct answer is: . Menopause

**Question 248**

Not answered

Marked out of 1.00

A 21-year-old G1 at 40 weeks, who underwent induction of labor for severe preeclampsia, delivered a 3900-g male infant via vaginal delivery after pushing for 21½ hours. A second-degree midline laceration and sidewall laceration were repaired in the usual fashion under local analgesia. The estimated blood loss was 450 cc. Magnesium sulfate is continued postpartum for the seizure prophylaxis. Six hours after the delivery, the patient has difficulty voiding. Which is the most likely cause of her problem?

Select one:

- ☐ . Preeclampsia
- ☐ . Vulvar hematoma
- ☐ . Use of local analgesia for repair
- ☐ . Infusion of magnesium sulfate
- ☐ . Ureteral injury

(Cunningham, pp 836-837.) An inability to void often leads to the diagnosis of a vulvar hematoma. Such hematomas are often large enough to apply pressure on the urethra. Pain from urethral lacerations is another reason women have difficulty voiding after delivery. Both epidural anesthesia, which can cause urinary retention, and oxytocin, which has an antidiuretic effect, can lead to an overdistended bladder and an inability to void. In this case, an indwelling catheter should be inserted and left in for at least 24 hours to allow recovery of normal bladder tone and sensation. Preeclampsia often leads to edema, which generally leads to diuresis postpartum.

The correct answer is: . Vulvar hematoma

**Question 249**

Not answered

Marked out of 1.00

A 22-year-old G1P0 woman who is 10 weeks pregnant with twins presents to the emergency department because of vomiting and dizziness. She has had “morning sickness” for the past month and would vomit once or twice a day. However, over the past week, she has been vomiting multiple times a day, and she has been unsuccessful at “keeping anything down” for the past 2 days. She denies fever or change in her bowel movements; her last bowel movement was that morning and was well formed. She has otherwise been healthy. Physical examination reveals a tired-appearing, pale woman with poor skin turgor; otherwise her examination is unremarkable. Her blood pressure is 110/75 mm Hg lying down and 90/45 mmHg sitting up. Her pulse is 80/min lying down and 115/min sitting up. Her respiratory rate is 24/min, and her temperature is 37.2C (99.0F). Her original blood work results are:

WBC count: 14,000/mm<sup>3</sup>,  
Platelet count: 350,000/mm<sup>3</sup>,  
Na<sup>+</sup>: 150 mEq/L,  
K<sup>+</sup>: 4 mEq/L,  
Cl<sup>-</sup>: 88 mEq/L,  
HCO<sub>3</sub><sup>-</sup>: 26 mEq/L,  
Hemoglobin: 15 g/dL,  
Hematocrit: 40%,  
Aspartate aminotransferase: 80 U/L,  
Alanine aminotransferase: 85 U/L.  
What is this woman's most likely diagnosis?

Select one:

- ☐ Hyperemesis gravidarum
- ☐ Acute viral hepatitis A
- ☐ Preeclampsia
- ☐ Food poisoning with Salmonella
- ☐ Viral gastroenteritis

Check

Hyperemesis gravidarum is defined as persistent severe vomiting during pregnancy and is principally a diagnosis of exclusion. It can lead to severe dehydration, hypochloremic alkalosis, hypokalemia, and a transient elevation in liver enzymes. It is more common in multiple pregnancies, as in this scenario, and is believed to be due to increasing  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) levels.

Answer A is incorrect. Although viral hepatitis A does cause nausea and vomiting and an increase in liver enzymes, it is also associated with malaise, fatigue, low-grade fevers, and jaundice. Given this woman's history of a multiple gestation pregnancy with accompanying morning sickness in the absence of any other signs or symptoms, the most likely diagnosis is hyperemesis gravidarum.

Answer B is incorrect. Salmonella food poisoning usually causes vomiting in the context of diarrhea and fever.

Answer D is incorrect. Although preeclampsia is more common in multiple gestations, it is rare before 20 weeks' gestation. In addition, patients with preeclampsia rarely have isolated acute nausea and vomiting. Other signs and symptoms such as severe hypertension, edema, proteinuria, sudden weight gain, headache, and vision changes usually accompany the gastrointestinal distress.

Answer E is incorrect. Viral gastroenteritis can cause nausea and vomiting, but given a lack of bowel changes or other symptoms, this woman's history is more consistent with hyperemesis gravidarum.

The correct answer is: Hyperemesis gravidarum

**Question 250**

Not answered

Marked out of 1.00

A 70-year-old woman presents for evaluation of a pruritic lesion on the vulva. Examination shows a white, friable lesion on the right labia majora that is 3 cm in diameter. No other suspicious areas are noted. Biopsy of the lesion confirms squamous cell carcinoma. In this patient, lymphatic drainage characteristically would be first to which of the following nodes?

Select one:

- ☐ . Periaortic nodes
- ☐ . Deep femoral lymph nodes
- ☐ . Internal iliac nodes
- ☐ . Superficial inguinal lymph nodes
- ☐ . External iliac lymph nodes

Check

(Hoskins, p 720.) An important feature of the lymphatic drainage of the vulva is the existence of drainage across the midline. The vulva drains first into the superficial inguinal lymph nodes, then into the deep femoral nodes, and finally into the external iliac lymph nodes. The clinical significance of this sequence for patients with carcinoma of the vulva is that the iliac nodes are probably free of the disease if the deep femoral nodes are not involved. Unlike the lymphatic drainage from the rest of the vulva, the drainage from the clitoral region bypasses the superficial inguinal nodes and passes directly to the deep femoral nodes. Thus, while the superficial nodes usually also have metastases when the deep femoral nodes are implicated, it is possible for only the deep nodes to be involved if the carcinoma is in the midline near the clitoris.

The correct answer is: . Superficial inguinal lymph nodes

**Question 251**

Not answered

Marked out of 1.00

A 36-year-old G2P2 presents for her well-woman examination. She has had two spontaneous vaginal deliveries without complications. Her largest child weighed 3500 g at birth. She uses oral contraceptive pills and denies any history of an abnormal Pap smear. She does not smoke, but drinks about four times per week. Her weight is 70 kg. Her vital signs are normal. After placement of the speculum, you note a clear cyst approximately 2.5 cm in size on the lateral wall of the vagina on the right side. The cyst is nontender and does not cause the patient any dyspareunia or discomfort. Which of the following is the most likely diagnosis of this mass?

Select one:

- ☐ . Lipoma
- ☐ . Bartholin duct cyst
- ☐ . Gartner duct cyst
- ☐ . Hematoma
- ☐ . Inclusion cyst

(Katz, p 48.) Gartner duct cysts arise from embryonic remnants of the mesonephric duct that course along the lateral vaginal wall. These are usually small and asymptomatic and are found incidentally during a pelvic examination. They can be followed conservatively unless the patient becomes symptomatic, at which time excision is recommended. Inclusion cysts are usually seen on the posterior lower vaginal surface. Inclusion cysts are the most common vaginal cysts and result from birth trauma or previous gynecologic surgery. Bartholin duct cysts are the most common large cysts of the vulva. Bartholin ducts open into a groove between the hymen and labia minora on the posterior lateral vaginal opening. Lipomas are benign, encapsulated tumors of fat cells; they are most commonly discovered in the labia majora and are superficial in location. Hematomas of the vulva usually occur as a result of blunt trauma or straddle injury. Spontaneous hematomas can occur as a result of rupture of a varicose vein in pregnancy or the postpartum period.

The correct answer is: . Gartner duct cyst

**Question 252**

Not answered

Marked out of 1.00

An 18-year-old female college student presents to student health services with a complaint of a burning sensation while urinating and abdominal pain. She denies urinary urgency or increased frequency. She has no significant past medical history. She is currently sexually active with a new partner. She

does not use barrier contraception. She denies any previous history of sexually transmitted diseases. On examination she is afebrile, heart rate is 70/min, and blood pressure is 120/60 mm Hg. Examination reveals no peritoneal signs but there is tenderness to palpation over the suprapubic region. On pelvic examination the cervix appears edematous and friable with a small amount of discharge from the os. A urine sample reveals numerous WBCs but no organisms on Gram stain. A cervical swab is sent for Gram stain and culture. Which of the following is the most likely explanation for these findings?

Select one:

- ☐ Infection with *Neisseria gonorrhoeae*
- ☐ Interstitial cystitis
- ☐ Infection with *Chlamydia trachomatis*
- ☐ Infection with *Escherichia coli*
- ☐ Infection with *Proteus mirabilis*

Check

*Chlamydia trachomatis* is an obligate intracellular organism and is one of the most common sexually transmitted organisms, causing urethritis, mucopurulent cervicitis, and late postpartum endometritis. Chlamydial infections are often asymptomatic, but may also present with signs of a urinary tract infection (nongonococcal urethritis) including dysuria and pyuria, but without any organisms visible on Gram stain of a sterile urine sample. Direct fluorescent antibody tests and DNA detection tests using polymerase chain reaction are highly sensitive and specific. Treatment consists of oral erythromycin, amoxicillin, or azithromycin. Because gonorrhea often coexists with chlamydia, therapy with an intramuscular injection of ceftriaxone is also indicated.

Answer B is incorrect. *Escherichia coli* is responsible for more than 90% of all uncomplicated urinary tract infections in women, which occur primarily via periurethral contamination during sexual intercourse or via contamination due to the proximity of the anus to the urethra. Symptoms include urinary frequency, urgency, dysuria, and low-grade fever. Gram stain reveals gram-negative bacilli.

Answer C is incorrect. *Neisseria gonorrhoeae* can cause inflammation of mucous membranes including the urethra, but is more likely to be asymptomatic or minimally symptomatic. Gonococcal infection primarily manifests as male urethritis and female endocervicitis. In the female, the discharge is usually described as thin, purulent, and mildly odorous. It is an

organism that would be detected on urine Gram stain, showing  $\geq 5$  WBCs per oil- immersion field with intracellular gramnegative diplococci within leukocytes.

Answer D is incorrect. *Proteus mirabilis* is a gram-negative, facultatively anaerobic bacterium commonly implicated in urinary tract infections. However, *Proteus* infection is usually found in those with structural abnormalities of the urinary tract, those with ureteral instrumentation such as catheters, as well as those with nosocomial infections. *Proteus* raises urine pH and can be detected with urine Gram stain.

Answer E is incorrect. Interstitial cystitis is a condition that results in recurring discomfort or pain in the bladder and the surrounding pelvic region. Symptoms are characterized by urinary urgency and increased frequency, but not commonly dysuria. Although some symptoms of interstitial cystitis resemble those of a bacterial infection, Gram stain or culture of the urine reveals no organisms. This condition is one diagnosed primarily by exclusion.

The correct answer is: Infection with *Chlamydia trachomatis*



**Question 253**

Not answered

Marked out of 1.00

A 28-year-old nulligravid woman is found on routine annual examination to have an asymptomatic, mobile, nontender, 6 cm unilateral pelvic mass. On sonogram, the mass is partially solid and partially cystic, with foci of calcifications. She is sexually active with her husband of 5 years. She has used combination oral contraceptives for the past 3 years. Which of the following is the most likely diagnosis?

Select one:

- ☐ Granulosa cell tumor
- ☐ Sertoli-Leydig cell tumor
- ☐ Benign cystic teratoma
- ☐ Gonadoblastoma
- ☐ Mucinous cystadenoma

The case scenario describes a benign cystic teratoma (choice M). Because these tumors derive from primordial germ cells, they may contain any combination of well-differentiated ectodermal, mesodermal, and endodermal elements. Foci of calcification, even the presence of teeth, are common. Management is surgical removal by laparoscopy.

The correct answer is: Benign cystic teratoma

**Question 254**

Not answered

Marked out of 1.00

A previously healthy 21-year-old woman has a profuse, malodorous vaginal discharge. Examination shows a greenish gray "frothy" discharge with a "fishy" odor and petechial lesions on the cervix. There is no cervical motion tenderness. Her temperature is 37.5 C (99.4 F), blood pressure is 120/80 mm Hg, pulse is 60/min, and respirations are 16/min. Microscopic evaluation of the discharge is most likely to show which of the following?

Select one:

- ☐ . Gram-negative diplococci
- ☐ . "Clue cells"
- ☐ . Motile, flagellated organisms
- ☐ . Gram-positive diplococci
- ☐ . Pseudohyphae or hyphae

[Check](#)

This patient has trichomoniasis. Trichomoniasis is caused by a motile, flagellated protozoan, *Trichomonas vaginalis*. The symptoms include a copious, malodorous ("fishy"), greenish-gray, "frothy" discharge. The vulvar and vaginal epithelium may be erythematous and edematous. Colposcopy may reveal petechial cervical lesions ("strawberry cervix"). A wet mount of the discharge often reveals motile trichomonads and polymorphonuclear leukocytes (PMNs). The treatment is metronidazole. Simultaneous treatment of the sexual partner reduces the risk of reinfection. "Clue cells" (choice A), vaginal squamous epithelial cells coated with coccobacillary organisms, are seen in bacterial vaginosis. The symptoms include a moderate amount of malodorous ("fishy"), white to gray, homogeneous vaginal discharge. An amine ("fishy") odor is present after mixing vaginal secretions with KOH. This is often called a positive whiff test. Saline preparations of the discharge reveal the "clue cells". The treatment is metronidazole. Simultaneous treatment of the sexual partner has not been shown to reduce recurrence. Gram-negative diplococci (choice B) are an indication of *Neisseria gonorrhoeae*. *N. gonorrhoeae* causes a mucopurulent cervical discharge in acute cervicitis and can lead to pelvic inflammatory disease (PID). PID is characterized by lower abdominal pain, fever, and cervical motion tenderness. Diagnosis is often made by Gram's stain of cervical secretions revealing gram-negative diplococci and polymorphonuclear leukocytes. Treatment is ceftriaxone IM once and doxycycline or azithromycin. The 2 latter drugs are given since concomitant chlamydial infection is common. Sexual partners must be treated. Gram-positive diplococci (choice C) are not a common cause of cervical discharge. Pseudohyphae or hyphae (choice E) is an indication of candidiasis. Vulvar pruritus, irritation, and a thick, white, cottage cheese-like discharge are the predominant symptoms. Diagnosis is made by KOH, saline, or Gram's stain evaluation of the vaginal fluid revealing fungi. Treatment is fluconazole PO or imidazole cream. Routine treatment of sexual partners is usually not indicated.

The correct answer is: . Motile, flagellated organisms

**Question 255**

Not answered

Marked out of 1.00

A 21-year-old G0 presents to your office because her menses is 2 weeks late. She states that she is taking her birth control pills correctly; she may have missed a day at the beginning of the pack, but took it as soon as she remembered. She denies any medical problems, but 3 or 4 weeks ago she had a "viral stomach flu" and missed 2 days of work for nausea, vomiting, and diarrhea. Her cycles are usually regular even without contraceptive pills. She has been on the pill for 5 years and recently developed some midcycle bleeding, which usually lasts about 2 days. She has been sexually active with the same partner for the past 3 months and has a history of chlamydia 3 years ago. She has had a total of 10 sexual partners. A urine pregnancy test is positive. Which of the following is the major cause of unplanned pregnancies in women using oral contraceptives?

Select one:

- ☐ . Gastrointestinal malabsorption
- ☐ . High frequency of intercourse
- ☐ . Breakthrough ovulation at midcycle
- ☐ . Development of antibodies
- ☐ . Incorrect use of oral contraceptives

Check

(Speroff, pp 873-874.) The pregnancy rate with birth control pills, based on theoretical effectiveness, is 0.1%. However, the pregnancy rate in actual use is 0.7%. This increase is owing to incorrect use of the pills. Breakthrough ovulation on combination birth control pills, when the pills are taken correctly, is thought to be a very rare occurrence. Unintended pregnancy in women correctly using oral contraceptive pills is not related to sexual frequency, gastrointestinal disturbances, or the development of antibodies.

The correct answer is: . Incorrect use of oral contraceptives

**Question 256**

Not answered

Marked out of 1.00

A previously healthy 50-year-old gravida 5, para 4, Caucasian woman comes to the physician complaining of passing small amounts of urine while sneezing or coughing for the past five months. She denies any episodes of weakness, numbness or fecal incontinence. There is no history of dysuria, increased frequency of urination, or hematuria. Her symptoms are progressively getting worse. Her other medical problems include diabetes mellitus type 2 diagnosed 3 years ago, treated with glyburide 2.5mg/day. She does not use tobacco, alcohol, or drugs, and has no known drug allergies. She mentions that she is an avid jogger, but her problem causes her

significant embarrassment. She now has to wear absorbent pads while jogging. Her vital signs are within normal limits. On examination, the abdomen is soft. Neurological examination is within normal limits. Pelvic examination shows a cystocele. The patient's labs reveal:

Urine Specific gravity: 1.020,

Blood: negative,

Glucose: negative,

Leukocyte esterase: negative,

Nitrites: negative,

WBC: 5-10/hpf,

Bacteria: none.

Random blood sugar is 120 mg/dl. Which of the following is the most likely cause of her symptoms?

Select one:

- ☐ . Detrusor instability
- ☐ . Pelvic floor muscle weakness
- ☐ . Interstitial cystitis
- ☐ . Overflow incontinence due to detrusor weakness
- ☐ . Bladder irritation from a neoplasm

Check

Stress incontinence is a common cause of incontinence in older women, high parity being one of the major risk factors. A high number of vaginal deliveries may lead to pelvic floor muscle weakness over a period of time. The proximal urethra prolapses outside the pelvis due to pelvic relaxation, so whenever there is a rise in intraabdominal pressure (e.g. coughing, sneezing, laughing), bladder pressure rises and urine is simultaneously lost in small amounts.

Aggravating factors for stress incontinence include morbid obesity, pregnancy, COPD and smoking. Diagnosis is usually based on the history and physical examination showing evidence of pelvic floor weakness such as uterine prolapse and/or cystocele. Urine analysis, cystometry and postvoid residual volume are normal. Therapy includes Kegel exercises, pessaries and estrogen replacement (in postmenopausal women). Surgical treatment includes the Burch procedure and sling procedures; these offer the highest cure rates, but are associated with a potential for morbidity.

(Choices A, Band C) Detrusor instability, bladder irritation from a neoplasm, and interstitial cystitis result in urge incontinence, which causes sudden and frequent loss of moderate to large amounts of urine. This is often

accompanied by nocturia and frequency. Since the patient does not complain of dysuria, frequency and urgency, and since the urine analysis is normal, it is unlikely that interstitial cystitis is the diagnosis.

(Choice D) Diabetic neuropathy causes overflow incontinence, which is characterized by loss of small amounts of urine from an over distended bladder, and a markedly increased residual volume. Patients usually have a long history of diabetes that is not well controlled.

Educational Objective:

A history of loss of small amounts of urine simultaneously occurring with activities that increase intraabdominal pressure, along with a physical examination demonstrating pelvic floor weakness, is diagnostic of stress incontinence. Urine analysis, cystometry and postvoid residual volume are normal.

The correct answer is: . Pelvic floor muscle weakness

### Question 257

Not answered

Marked out of 1.00

A 36-year-old primigravid woman at 36 weeks' gestation comes to the physician for a prenatal visit. She is experiencing good fetal movement and has had no loss of fluid, bleeding from the vagina, or contractions. She has no complaints. Her past medical history is significant for mitral stenosis, which she developed after an episode of rheumatic fever as a child. She also has asthma for which she uses an albuterol inhaler daily. She has herpes outbreaks approximately once a year. At her last visit she was found to be positive for Group B Streptococcus colonization. For which of the following disease processes would this patient benefit by having a forceps-assisted vaginal delivery at the time of delivery?

Select one:

- ☐ . This patient would not benefit from a forceps-assisted vaginal delivery
- ☐ . Mitral stenosis
- ☐ . Group B Streptococcus (GBS) colonization
- ☐ . Herpes
- ☐ . Asthma

Check

Mitral valve stenosis is one of the more common valvular lesions seen in pregnancy. The most common cause of mitral stenosis is rheumatic endocarditis. During normal pregnancy there is an increase in the cardiac output and an increase in preload and

circulating volume. Patients with mitral stenosis have a fixed, decreased valve area, which places them at risk for the development of pulmonary hypertension and pulmonary edema. Control of arrhythmias is absolutely essential in these patients because they are at increased risk, given the left atrial enlargement that often goes along with their mitral stenosis. Labor and delivery can be a particularly dangerous time for these patients. Therefore, patients with significant mitral stenosis should be monitored invasively using a Swan-Ganz catheter. It is recommended that the second stage of labor be shortened using forceps or vacuum to prevent excess maternal Valsalva efforts and maternal tachycardia. Asthma (choice A) is not an indication for forceps-assisted vaginal delivery. In terms of mode of delivery, asthmatic patients may be managed like any other patient in the second stage of labor. Group B Streptococcus colonization (choice B) is an indication for intravenous penicillin or clindamycin (if the patient has an allergy to penicillin). These antibiotics are given to prevent GBS sepsis in the neonate. GBS colonization is not an indication for forceps-assisted vaginal delivery. Herpes (choice C) can be transmitted to the fetus at the time of delivery. Therefore, when lesions are present in the birth canal, most obstetricians recommend cesarean delivery. A history of herpes outbreaks, as this patient has, is not an indication for forceps. To state that this patient would not benefit from a forceps-assisted vaginal delivery (choice E) is incorrect. As explained above, given this patient's mitral stenosis, forceps-assisted vaginal delivery would be recommended.

The correct answer is: . Mitral stenosis

**Question 258**

Not answered

Marked out of 1.00

A 27-year-old G4P3 at 37 weeks presents to the hospital with heavy vaginal bleeding and painful uterine contractions. Quick bedside ultrasound reveals a fundal placenta. The patient's vital signs are blood pressure 140/92 mmHg, pulse 118 beats per minute, respiratory rate 20 breaths per minute, and temperature 37C (98.6F). The fetal heart rate tracing reveals tachycardia with decreased variability and a few late decelerations. An emergency cesarean section delivers a male infant with Apgar scores of 4 and 9. With delivery of the placenta, a large retroplacental clot is noted. The patient becomes hypotensive, and bleeding is noted from the wound edges and her IV catheter sites. She requires 12 units of packed red blood cells and fresh frozen plasma for resuscitation. After a short stay in the intensive care unit the patient recovers. When can long-term complications related to sequela of postpartum hemorrhage first be noted?

Select one:

- ☐ . 6 hours postpartum
- ☐ . 1 month postpartum
- ☐ . 1 year postpartum
- ☐ . 1 week postpartum
- ☐ . 6 month postpartum

Check

(Cunningham, pp 825-826.) A disadvantage of home delivery is the lack of facilities to control postpartum hemorrhage. The woman described in the question delivered a large baby, suffered multiple soft tissue injuries, and went into shock, needing 9 units of blood by the time she reached the hospital. Sheehan syndrome seems a likely possibility in this woman. This syndrome of anterior pituitary necrosis related to obstetric hemorrhage can be diagnosed by 1 week postpartum, as lactation fails to commence normally. Although many modern women choose hormonal therapy to prevent lactation, the woman described in the question was intent on breast-feeding and so would not have received suppressant. She therefore could have been expected to begin lactation at the usual time. Other symptoms of Sheehan syndrome include amenorrhea, atrophy of the breasts, and loss of thyroid and adrenal function. The other presented choices for late sequelae are rather farfetched. Hemochromatosis would not be expected to occur in this healthy young woman, especially since she did not receive prolonged transfusions. Cushing, Simmonds, and Stein-Leventhal syndromes are not known to be related to postpartum hemorrhage. It is important to note that home delivery is not a predisposing factor to postpartum hemorrhage.

The correct answer is: . 1 week postpartum

**Question 259**

Not answered

Marked out of 1.00

A 26-year-old primigravid woman at 32 weeks gestation comes to the physician because of swelling of her hands and feet. Her previous prenatal check-up was normal. Blood pressure is 150/95 mmHg, and five minutes later following lateral rest her blood pressure is 140/95 mmHg. Physical examination shows 2+ pitting edema of the legs and a macular eruption on the cheekbones. Optic fundi show no abnormalities. Laboratory studies are as follows: Urinalysis: 4+ protein, RBC casts, Urine protein: 8 g/24hr, Uric acid: 5 mg/dl, BUN: 28 mg/dl, Serum creatinine: 2.1 mg/dl, Serum electrolytes, liver function tests and coagulation studies are within normal limits. A serum antinuclear antibody (ANA) test is positive in high titers Which of the following is the most likely diagnosis?



Select one:

- ☐ . HELLP syndrome
- ☐ . Chronic hypertension with superimposed pre-eclampsia
- ☐ . Pregnancy induced hypertension
- ☐ . Hemolytic uremic syndrome
- ☐ . Glomerulonephritis

Check

The patient presents with hypertension, proteinuria and edema, which are the hallmarks of preeclampsia. However, the gross proteinuria associated with a malar rash and a strongly positive ANA should raise suspicions for systemic lupus erythematosus (SLE). It must be noted, however, that ANA titers may be weakly positive in normal pregnancy. The distinction between SLE and preeclampsia during pregnancy is crucial because both conditions respond to different therapeutic approaches. In fact, treating preeclampsia with corticosteroids can aggravate it. If the patient is known to have lupus before pregnancy, the appearance of proteinuria during pregnancy may represent lupus nephritis, preeclampsia or both. Signs that favor lupus as the origin of the proteinuria include a rapid aggravation of the proteinuria, associated clinical signs of active SLE, and the presence of RBC casts in the urinalysis which indicates true nephritis rather than simple protein loss. If the proteinuria persists after delivery, renal biopsy is then indicated and will most likely be diagnostic of lupus nephritis. SLE, however, rarely presents for the first time during pregnancy.

(Choice A) The hypertension in this patient is probably not simply pregnancy-induced because of the magnitude of proteinuria, the malar rash and the positive ANA titer.

(Choice B) Chronic hypertension with superimposed preeclampsia is defined as hypertension that occurs before pregnancy or before 20 weeks gestation with subsequent development of proteinuria. The previous antenatal records of this patient were all normal until she presented these new symptoms, which makes this diagnosis unlikely.

(Choice D) This patient does not have thrombocytopenia or microangiopathic hemolytic anemia, which are two hallmarks of HUS.

(Choice E) HELLP syndrome is a variant of preeclampsia characterized by Hemolysis, Elevated Liver enzymes and Low Platelet count.

Educational objective:



Hypertension in a pregnant female in the setting of massive proteinuria, a malar rash, and a strongly positive ANA titer is most likely due to systemic lupus erythematosus. Glomerulonephritis in general will cause proteinuria, hematuria and RBC casts.

The correct answer is: . Glomerulonephritis

**Question 260**

Not answered

Marked out of 1.00

A 26-year-old nulligravid woman comes to the emergency department because of severe right lower quadrant pain. She states that the pain started last night. This morning she was awakened from sleep with severe pain in the same area. During the episode of pain, she also had nausea, vomiting, and diaphoresis. On admission to the emergency department she required 5 mg of morphine to control her pain. Examination is significant for right lower quadrant tenderness and a tender right adnexal mass on pelvic examination. Urine hCG is negative. Urinalysis is negative. Transvaginal ultrasound reveals an 8 cm right ovarian mass. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Nephrolithiasis
- ☐ . Ectopic pregnancy
- ☐ . Pelvic inflammatory disease
- ☐ . Appendicitis
- ☐ . Ovarian torsion

Check

This patient's presentation is most consistent with ovarian torsion. Ovarian torsion typically occurs in the setting of an adnexal mass. A mass changes the motion "dynamics" of the adnexae such that a twisting of the adnexa becomes possible. This mass can be a functional ovarian cyst, a dermoid, a paratubal cyst, or any number of other benign or malignant neoplasms. Once a complete torsion has occurred, the arterial supply to the ovary is occluded and necrosis can result. Patients with adnexal torsion can present with a history of intermittent pain that comes and goes as the adnexa twists. The pain is usually severe and often accompanied by episodes of nausea, vomiting, and diaphoresis, as this patient had. They may need narcotics to control the severe pain. A pelvic mass will almost always be found on physical examination or by ultrasound. If there is no adnexal mass, the diagnosis of ovarian torsion is highly unlikely. This is true because most normal ovaries do not have the motion "dynamics" that will allow them to twist. Appendicitis

(choice A) should always be a consideration when a patient presents with right lower quadrant pain. However, in this case, the combination of the pain with the ovarian mass makes ovarian torsion, and not appendicitis, the most likely diagnosis. Ectopic pregnancy (choice B) should also be an important consideration when a young woman presents with abdominal pain. Some emergency departments have signs reading "Think Ectopic" to keep staff aware of this possibility. In this case, however, the patient is not pregnant (negative urine hCG) which excludes ectopic from the differential. Nephrolithiasis (choice C) can also cause excruciating pain, as does ovarian torsion. With nephrolithiasis, hematuria will often be present. In this patient, the absence of hematuria and the presence of the right adnexal mass make nephrolithiasis less likely. Pelvic inflammatory disease (choice E) is a diagnosis that merits consideration in a woman with abdominal pain with a negative hCG (it is far less common during pregnancy). However, the ovarian mass in this case makes torsion a more likely diagnosis than PID.

The correct answer is: . Ovarian torsion

**Question 261**

Not answered

Marked out of 1.00

An obese 46-year-old G6P1051 with type 1 diabetes since age 12 presents to your office complaining of urinary incontinence. She has been menopausal since age 44. Her diabetes has been poorly controlled for years because of her noncompliance with insulin therapy. She often cannot tell when her bladder is full, and she will urinate on herself without warning. Which of the following factors in this patient's history has contributed the most to the development of her urinary incontinence?

Select one:

- ☐ . Menopause
- ☐ . Obstetric history
- ☐ . Diabetic status
- ☐ . Age
- ☐ . Obesity

Check

(Beckmann, pp 289-292.) In pelvic relaxation, there is a loss of connective tissue support adjacent to the reproductive tract organs and in the perineum. Natural aging of the tissue, intrinsic weaknesses caused by genetics, birth trauma, hypoestrogenism, and chronic elevation of intraabdominal pressure because of obesity, cough, or heavy lifting are all factors that contribute to pelvic relaxation. Diabetes can result in neuropathy, which can affect the neurologic control of the bladder, but this medical condition is not a cause of pelvic relaxation.

The correct answer is: . Diabetic status

**Question 262**

Not answered

Marked out of 1.00

A 34-year-old woman, gravida 1, para 0, at 18 weeks' gestation with severe hyperemesis has a blood pressure of 150/95 mm Hg and 2+ proteinuria. Pelvic examination reveals bilateral adnexal masses that are 8–10 cm in diameter and appear multiloculated on a sonogram. Which of the following is the most likely diagnosis?

Select one:

- ☐ Luteoma of pregnancy
- ☐ Follicular cyst
- ☐ Theca-lutein cyst
- ☐ Corpus luteum cyst
- ☐ Endometrioma

The case scenario describes theca-lutein cysts (choice H), which occur as a response of normal ovaries to excessively high  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) titers produced by the trophoblastic tissue of a molar pregnancy. Preeclampsia before 20 weeks' gestation, as is seen in this scenario, is common with a hydatidiform mole. The cysts are bilateral and fluid-filled, growing to massive size. They disappear when the source of the increased  $\beta$ -hCG levels is removed by a suction dilation and curettage. Follow-up with serial  $\beta$ -hCG titers is essential for at least a year. With a complete molar pregnancy, no fetus is seen within the uterus, which is filled with avascular cystic dilated villi. Karyotype of the placental tissue will be 46,XX with both X chromosomes paternally derived. With an incomplete mole, a nonviable aneuploidy fetus with 69,XXY karyotype will be seen.

The correct answer is: Theca-lutein cyst

**Question 263**

Not answered

Marked out of 1.00

A 14-year-old girl complains of irregular, unpredictable heavy menstrual bleeding. She denies pain or cramping. Her first menstrual period was at age 13, and they have always been irregular, but the bleeding seems to be getting heavier. She has no chronic health problems and states she has never been sexually active. She appears well developed and well nourished, with normal female secondary sexual characteristics. Inspection shows normal female external genitalia. Results of a qualitative urine human chorionic gonadotropin (-hCG) test are negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ Simple hyperplasia without atypia
- ☐ Ovarian carcinoma
- ☐ Ectopic pregnancy
- ☐ Uterine adenomyosis
- ☐ Sarcoma botryoides

Check

The history of irregular, unpredictable menstrual bleeding is strongly suggestive of an anovulatory cause. The absence of cramping and pain is consistent with anovulation. (Ovulatory cycles typically are associated with cramping, from the release of prostaglandins triggered by the necrosis that is endometrial spiral arteriolar spasm caused by the decrease in progesterone production from the corpus luteum.) With anovulation, the unopposed estrogen results in simple endometrial hyperplasia without atypia (choice G). Management is by administering cyclic progestins or combination oral contraceptives to reverse the hyperplasia.

The correct answer is: Simple hyperplasia without atypia

**Question 264**

Not answered

Marked out of 1.00

An 18-year-old woman, gravida 1, now para 1, just delivered a 3,500 g (7 lb 12 oz) healthy male neonate without complications. At the beginning of this pregnancy, at 8 weeks' gestation, she was noted to have a 5-cm right adnexal cystic mass that appeared as a simple, thin-walled, round, fluid-filled cyst structure. The mass spontaneously involuted and was no longer seen on sonogram at 16 weeks' gestation. Which of the following is the most likely diagnosis?

Select one:

- ☐ Theca-lutein cyst
- ☐ Corpus luteum cyst
- ☐ Follicular cyst
- ☐ Endometrioma
- ☐ Luteoma of pregnancy

The case scenario describes a classic corpus luteum cyst of pregnancy (choice G) that resolved spontaneously when the placenta took over the function of progesterone production. This typically occurs around 10 weeks' gestation. These are unilateral, simple cysts that are an exaggerated response to a normal physiologic event. Management is conservative observation.

The correct answer is: Corpus luteum cyst

**Question 265**

Not answered

Marked out of 1.00

A 24-year-old primigravid woman, who is intent on breast-feeding, decides on a home delivery. Immediately after the birth of a 4.1-kg (9-lb) infant, the patient bleeds massively from extensive vaginal and cervical lacerations. She is brought to the nearest hospital in shock. Over 2 hours, 9 units of blood are transfused, and the patient's blood pressure returns to a reasonable level. A hemoglobin value the next day is 7.5 g/dL, and 3 units of packed red blood cells are given. The most likely late sequela to consider in this woman is which of the following?

Select one:

- ☐ . Cushing syndrome
- ☐ . Sheehan syndrome
- ☐ . Simmonds syndrome
- ☐ . Stein-Leventhal syndrome
- ☐ . Hemochromatosis

(Cunningham, pp 825-826.) A disadvantage of home delivery is the lack of facilities to control postpartum hemorrhage. The woman described in the question delivered a large baby, suffered multiple soft tissue injuries, and went into shock, needing 9 units of blood by the time she reached the hospital. Sheehan syndrome seems a likely possibility in this woman. This syndrome of anterior pituitary necrosis related to obstetric hemorrhage can be diagnosed by 1 week postpartum, as lactation fails to commence normally. Although many modern women choose hormonal therapy to prevent lactation, the woman described in the question was intent on breast-feeding and so would not have received suppressant. She therefore could have been expected to begin lactation at the usual time. Other symptoms of Sheehan syndrome include amenorrhea, atrophy of the breasts, and loss of thyroid and adrenal function. The other presented choices for late sequelae are rather farfetched. Hemochromatosis would not be expected to occur in this healthy young woman, especially since she did not receive prolonged transfusions. Cushing, Simmonds, and Stein-Leventhal syndromes are not known to be related to postpartum hemorrhage. It is important to note that home delivery is not a predisposing factor to postpartum hemorrhage.

The correct answer is: . Sheehan syndrome

**Question 266**

A 24-year-old G0 presents to your office complaining of vulvar discomfort. More specifically, she has been experiencing intense burning and pain with

Not answered

Marked out of 1.00

intercourse. The discomfort occurs at the vaginal introitus primarily with penile insertion into the vagina. The patient also experiences the same pain with tampon insertion and when the speculum is inserted during a gynecologic examination. The problem has become so severe that she can no longer have sex, which is causing problems in her marriage. She is otherwise healthy and denies any medical problems. She is experiencing regular menses and denies any dysmenorrhea. On physical examination, the region of the vulva around the vaginal vestibule has several punctate, erythematous areas of epithelium measuring 3 to 8 mm in diameter. Most of the lesions are located on the skin between the two Bartholin glands. Each inflamed lesion is tender to touch with a cotton swab. Which of the following is the most likely diagnosis?

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Select one:

- ☐ . Atrophic vaginitis
- ☐ . Lichen sclerosus
- ☐ . Vulvar vestibulitis
- ☐ . Vulvar intraepithelial neoplasia
- ☐ . Contact dermatitis

(Katz, pp 427-428, 588-590, 782-783.) Vulvar vestibulitis is a syndrome of unknown etiology. To make the diagnosis of this disorder, the following three findings must be present: (1) severe pain on vestibular touch or attempted vaginal entry, (2) tenderness to pressure localized within the vulvar vestibule, and (3) visible findings confined to vulvar erythema of various degrees. To treat vulvar vestibulitis, the first step is to avoid tight clothing, tampons, hot tubs, and soaps, which can all act as vulvar irritants. If this fails, topical treatments include lidocaine, estrogen, and steroids. Tricyclic antidepressants and intralesional interferon injections have also been used. For women refractory to medical therapy, surgical excision of the vestibular mucosa may be helpful. Valtrex (valacyclovir) is an antiviral medication used in the treatment of genital herpes and is not indicated for vulvar vestibulitis. Contact dermatitis is an inflammation and irritation of the vulvar skin caused by a chemical irritant. The vulvar skin is usually red, swollen, and inflamed and may become weeping and eczemoid. Women with a contact dermatitis usually experience chronic vulvar tenderness, burning, and itching that can occur even when they are not engaging in intercourse. Atrophic vaginitis is a thinning and ulceration of the vaginal mucosa that occurs as a result of hypoestrogenism; thus this condition is usually seen in postmenopausal women not on hormone replacement therapy. Lichen sclerosus is another



atrophic condition of the vulva. It is characterized by diffuse, thin whitish epithelial areas on the labia majora, minora, clitoris, and perineum. In severe cases, it may be difficult to identify normal anatomic landmarks. The most common symptom of lichen sclerosus is chronic vulvar pruritus. Vulvar intraepithelial neoplasia (VIN) are precancerous lesions of the vulva that have a tendency to progress to frank cancer. Women with VIN complain of vulvar pruritus, chronic irritation, and raised lesions. These lesions are most commonly located along the posterior vulva and in the perineal body and have a whitish cast and rough texture.

The correct answer is: . Vulvar vestibulitis

**Question 267**

Not answered

Marked out of 1.00

A 32-year-old G5 delivers a stillborn fetus at 34 weeks. The placenta is noted to be much larger than normal. The fetus appeared hydropic and had petechiae over much of the skin. What is the most likely causative agent?

Select one:

- ☐ . Herpes simplex
- ☐ . Parvovirus
- ☐ . T. pallidum
- ☐ . Rubella virus
- ☐ . Varicella zoster

Check

(Cunningham, pp 1130-1131, 1276-1293, 1307-1310.) In the past, syphilis accounted for about one-third of all stillbirths. Transplacental infection can occur with any stage of syphilis, but the highest incidence of congenital infection occurs in women with primary or secondary disease. The fetal and neonatal effects include hepatosplenomegaly, edema, ascites, hydrops, petechiae or purpuric skin lesions, osteochondritis, lymphadenopathy, rhinitis, pneumonia, myocarditis, and nephrosis. The placenta is enlarged, sometimes weighing as much as the fetus. While parvovirus can cause stillbirth and fetal hydrops, it is not associated with skin lesions or placental hypertrophy.

The correct answer is: . T. pallidum

**Question 268**

Not answered

Marked out of 1.00

A 74-year-old woman presents to your office for well-woman examination. Her last Pap smear and mammogram were 3 years ago. She has hypertension, high cholesterol, and osteoarthritis. She stopped smoking 15 years ago, and denies alcohol use. Based on this patient's history which of the following medical conditions should be this patient's biggest concern?

Select one:

- ☐ . Heart disease
- ☐ . Cerebrovascular disease
- ☐ . Lung cancer
- ☐ . Alzheimer disease
- ☐ . Breast cancer

(Katz, pp 148-152. ACOG Guidelines for Women's Health Care, pp 145-158.) In order of decreasing incidence, the leading causes of death in women more than 65 years old are the following: diseases of the heart, cancer, cerebrovascular diseases, chronic obstructive pulmonary diseases, pneumonia and influenza, diabetes mellitus, accidents, and Alzheimer disease.

The correct answer is: . Heart disease

**Question 269**

Not answered

Marked out of 1.00

A 30-year-old woman comes to the physician because of a 10-month history of dysmenorrhea associated with a dull pelvic sensation. She has heavy periods but denies inter-menstrual bleeding. She is sexually active with her husband and does not use contraception because they have been trying to become pregnant for one year. She has no pain during intercourse. Physical examination shows normal external genitalia and an enlarged uterus, but is otherwise normal. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Primary dysmenorrhea
- ☐ . Fibroid uterus
- ☐ . Pelvic congestion syndrome
- ☐ . Endometriosis
- ☐ . Pelvic inflammatory disease

[Check](#)

The presence of dysmenorrhea, heavy menses and an enlarged uterus is classic for uterine fibroids. Submucosal fibroids often interfere with implantation of the embryo, resulting in infertility. Fibroids are the most common benign uterine tumors in women and the most common indication for hysterectomy. They are estrogen-dependent tumors; therefore, they increase in size with oral contraceptive pills (OCPs) or pregnancy, and often regress after menopause .

(Choice A) Pelvic inflammatory disease is very unlikely in the absence of fever, cervical motion tenderness, adnexal tenderness, and vaginal discharge.

(Choice B) Signs and symptoms of endometriosis may include dysmenorrhea, dyspareunia, tender pelvic nodes, a fixed retroverted uterus, and infertility. An enlarged uterus is not a feature of endometriosis.

(Choice D) Pelvic congestion presents as a dull, ill-defined pelvic ache, usually worse prior to menstruation and relieved by menses. It is often associated with a history of sexual problems. An enlarged uterus is not a feature.

(Choice E) Patients with primary dysmenorrhea usually do not have heavy menses or an enlarged uterus.

Educational objective;

The presence of dysmenorrhea, heavy menses, and an enlarged uterus is classic for uterine fibroids.

The correct answer is: . Fibroid uterus

**Question 270**

Not answered

Marked out of 1.00

A 32-year-old morbidly obese diabetic woman presents to your office complaining of prolonged vaginal bleeding. She has never been pregnant. Her periods were regular, monthly, and light until 2 years ago. At that time, she started having periods every 3 to 6 months. Her last normal period was 5 months ago. She started having vaginal bleeding again 3 weeks ago, light at first. For the past week she has been bleeding heavily and passing large clots. On pelvic examination, the external genitalia is normal. The vagina is filled with large clots. A large clot is seen protruding through the cervix. The uterus is in the upper limit of normal size. The ovaries are normal to palpation. Her urine pregnancy test is negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Cervical polyp
- ☐ . Incomplete abortion
- ☐ . Coagulation defect
- ☐ . Chronic anovulation
- ☐ . Uterine fibroids

Check

(Beckmann, pp 362-364. Speroff, pp 553-560.) This patient presents an example of chronic anovulation in an older woman. She gives a classic history of changing from regular, monthly periods to irregular, infrequent episodes of vaginal bleeding. Patients with chronic anovulation often have underlying medical problems such as diabetes, thyroid problems, or polycystic ovarian syndrome. A patient with uterine fibroids may have heavy periods, but the regularity of the periods is not affected unless the patient has underlying ovulatory dysfunction. A cervical polyp would clearly be seen on physical examination and, like uterine fibroids, would not affect the timing of menstruation. Patients with cervical polyps often complain of bleeding between periods, usually provoked by sexual intercourse. Since the patient's pregnancy test is negative, she cannot have an incomplete abortion. Patients with coagulation defects have problems with heavy periods from the time of menarche.

The correct answer is: . Chronic anovulation

**Question 271**

Not answered

Marked out of 1.00

A 34-year-old G1P1 who delivered her first baby 5 weeks ago calls your office and asks to speak with you. She tells you that she is feeling very overwhelmed and anxious. She feels that she cannot do anything right and feels sad throughout the day. She tells you that she finds herself crying all the time and is unable to sleep at night. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Postpartum psychosis
- ☐ . Postpartum depression
- ☐ . Bipolar disease
- ☐ . Postpartum blues
- ☐ . Maternity blues

(Beckmann, pp 129-131. Cunningham, pp 1241-1245.) This patient is exhibiting classic symptoms of postpartum depression. Postpartum depression develops in about 8% to 15% of women and generally is characterized by an onset about 2 weeks to 12 months postdelivery and an average duration of 3 to 14 months. Women with postpartum depression have the following symptoms: irritability, labile mood, difficulty sleeping, phobias, and anxiety. About 50% of women experience postpartum blues, or maternity blues, within 3 to 6 days after delivering. This mood disturbance is thought to be precipitated by progesterone withdrawal following delivery and usually resolves in 10 days. Maternity blues is characterized by mild insomnia, tearfulness, fatigue, irritability, poor concentration, and depressed affect. Postpartum psychosis usually has its onset within a few days of delivery and is characterized by confusion, disorientation, and loss of touch with reality. Postpartum psychosis is very rare and occurs in only 1 to 4 in 1000 births. Bipolar disorder or manic-depressive illness is a psychiatric disorder characterized by episodes of depression followed by mania.

The correct answer is: . Postpartum depression

**Question 272**

Not answered

Marked out of 1.00

A 23-year-old woman presents with urinary frequency and abnormal uterine bleeding. A careful medical history finds that her abnormal menstrual bleeding is characterized by excessive bleeding at irregular intervals. A pelvic examination finds a single mass in the anterior wall of the uterus, this being confirmed by ultrasonography. Which one of the following clinical terms best describes the abnormal uterine bleeding in this woman?

Select one:

- ☐ . Oligomenorrhea
- ☐ . Polymenorrhea
- ☐ . Dysmenorrhea
- ☐ . Amenorrhea
- ☐ . Menometrorrhagia

(ACOG, Practice Bulletin 41.) Thyroid dysfunction and hyperprolactinemia can both be associated with hirsutism, and therefore it is important to check levels of TSH and prolactin. In order to rule out congenital adrenal hyperplasia caused by a deficiency in 21-hydroxylase, a 17 $\alpha$ -hydroxyprogesterone level should be drawn. Very high levels of total testosterone would indicate the presence of an androgen-secreting ovarian tumor. Elevated levels of dehydroepiandrosterone would be consistent with PCOS. There is no role for ordering an isolated estrone level in the workup and evaluation of hirsutism.

The correct answer is: . Menometrorrhagia

**Question 273**

Not answered

Marked out of 1.00

A 30-year-old female comes to your office for her first prenatal visit. She has been married for 3-years and has been trying to conceive for the past year. She had been unsuccessful; however, she now has a 2-month history of amenorrhea. She has been experiencing morning sickness and has had abdominal distension and breast fullness over the past two weeks. She states that her home urine pregnancy test is positive. She seems happy and excited about this long awaited pregnancy. She has no previous medical problems. She has been taking prenatal vitamins for the past 3 weeks after she first missed her period. Physical examination shows a tympanic abdomen. Ultrasonogram shows a normal endometrial stripe. Pregnancy testing in the office is negative. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Missed abortion
- ☐ . Molar pregnancy
- ☐ . Fetal demise
- ☐ . Ectopic pregnancy
- ☐ . Pseudocyesis

Check

This patient most likely has a pseudocyesis. This is an uncommon condition in which a woman presents with many signs and symptoms of pregnancy such as amenorrhea, enlargement of the breasts and abdomen, morning sickness, weight gain, sensation of fetal movement and reported positive urine pregnancy test per the patient. Ultrasound, however, will reveal a normal endometrial stripe and the pregnancy test in office will be negative.

Pseudocyesis is usually seen in women who have a strong desire to become pregnant. It has been suggested that the depression caused by this need is behind the occurrence of some hormonal changes mimicking those of pregnancy. This is a form of conversion disorder, and management requires psychiatric evaluation and treatment.

(Choice A) In a missed abortion ultrasonogram usually reveal an intrauterine collapsed gestational sac and absent fetal cardiac activity. An in office pregnancy test is positive.

(Choice B) Fetal demise occurs between 20 weeks gestation and the onset of labor. Ultrasonogram reveals an absence of fetal heart activity and the presence of intrauterine products of conception.

(Choice C) In ectopic pregnancy ultrasonogram usually reveals an adnexal mass and an empty uterus. A pregnancy test will be positive.

(Choice D) Patients with molar pregnancy typically have an exaggeration of the nausea and vomiting of early pregnancy, uterine size greater than dates and ultrasound typically reveals the classic snowstorm appearance. A pregnancy test will be positive.

(Choice F) Beta-HCG would be positive by this time in a pregnancy.

(Choice G) Anorexia nervosa can cause amenorrhea due to nutritional deficiency, but other signs and symptoms of pregnancy do not typically occur.

(Choice H) Hypothyroidism is a cause of amenorrhea, but other signs of hypothyroidism such as weakness, cold intolerance, constipation, hoarseness, dry skin and delayed DTRs would likely be present.

Educational objective:

Pseudocyesis is a rare psychiatric condition in which a woman presents with nearly all signs and symptoms of pregnancy; however, ultrasound reveals a normal endometrial stripe and negative pregnancy test.

The correct answer is: . Pseudocyesis

**Question 274**

Not answered

Marked out of 1.00

A 32-year-old female presents to your office complaining of a small amount of vaginal discharge. Wet mount preparation of the discharge shows few leukocytes. Application of KOH solution to the discharge yields a strong fishy odor. The most likely diagnosis is:

Select one:

- ☐ . Gonorrhea infection
- ☐ . Bacterial vaginosis
- ☐ . Chlamydia infection
- ☐ . Fungal infection
- ☐ . Trichomonas infection

Check

This patient has bacterial vaginosis (BV), a common vaginal disease caused most commonly by the Gram variable rod *Gardnerella vaginalis*. BV is accompanied by alterations in the normal vaginal flora, including loss of lactobacilli and overgrowth of mixed anaerobes. Patients commonly describe having gray discharge with a "fishy" odor. Addition of potassium hydroxide (KOH) to a sample of the discharge ("whiff" test) makes the odor especially prominent. This odor is caused by volatilization of amines produced by *Gardnerella vaginalis* and other anaerobes. The presence of clue cells on wet mount microscopy of the discharge is also characteristic.

(Choices A and B) *N. gonorrhoeae* and *C. trachomatis* are sexually transmitted organisms that commonly cause infection simultaneously. In women, these organisms typically cause cervicitis accompanied by a purulent white discharge. Infection can progress to pelvic inflammatory disease. Gram stain of vaginal discharge may reveal *N. gonorrhoeae*, but *C. trachomatis* cannot be visualized in this manner.

(Choice D) *Candida albicans* is the most common cause of fungal vaginitis. Patients present with intense vaginal pruritus, white curd-like discharge, and labial erythema. KOH examination of the vaginal discharge shows yeast forms and pseudohyphae. No abnormal odor is elicited with the addition of KOH.



(Choice E) *Trichomonas* is a flagellated protozoan that causes vaginitis. Patients develop a yellow-green foamy, foul-smelling discharge. Motile trophozoites with flagellae are seen on wet mount microscopy.

(Choice F) Atrophic vaginitis occurs in postmenopausal women and other hypoestrogenemic women. Patients complain of vaginal dryness, serosanguinous or watery discharge, and dyspareunia.

Educational Objective:

A positive "whiff" test - production of a fishy odor on addition of potassium hydroxide (KOH) to vaginal discharge - is a sign of bacterial vaginosis. Clue cells on saline wet mount microscopy also suggest this diagnosis.

The correct answer is: . Bacterial vaginosis

**Question 275**

Not answered

Marked out of 1.00

A 28-year-old G1P0 presents to your office at 18 weeks gestational age for an unscheduled visit secondary to right-sided groin pain. She describes the pain as sharp and occurring with movement and exercise. She denies any change in urinary or bowel habits. She also denies any fever or chills. The application of a heating pad helps alleviate the discomfort. As her obstetrician, what should you tell this patient is the most likely etiology of this pain?

Select one:

- ☐ . Kidney stone
- ☐ . Urinary tract infection
- ☐ . Round ligament pain
- ☐ . Preterm labor
- ☐ . Appendicitis

(Gabbe, pp 227. Cunningham, pp 22, 24, 867, 1119-1120.) The patient is giving a classic description of round ligament pain. Each round ligament extends from the lateral portion of the uterus below the oviduct and travels in a fold of peritoneum downward to the inguinal canal and inserts in the upper portion of the labium majus. During pregnancy, these ligaments stretch as the gravid uterus grows farther out of the pelvis and can thereby cause sharp pains, particularly with sudden movements. Round ligament pain is usually more frequently experienced on the right side owing to the dextrorotation of the uterus that commonly occurs in pregnancy. Usually this pain is greatly improved by avoiding sudden movements and by rising and sitting down gradually. Local heat and analgesics may also help with pain control. The diagnosis of appendicitis is not likely because the patient is not experiencing any fever or anorexia. In addition, because the gravid uterus pushes the appendix out of the pelvis, pregnant women with appendicitis often have pain located much higher than the groin area. The diagnosis of preterm labor is unlikely because the pain is localized to the groin area on one side and is alleviated with a heating pad, which would not be the case with labor contractions. In addition, when labor occurs, the pain would persist at rest, not just with movement. A urinary tract infection is unlikely because the patient has no urinary symptoms. A kidney stone is unlikely because usually the patient would complain of pain in the back, not low in the groin. In addition, with a kidney stone the pain would occur not only with movement, but would persist at rest as well.

The correct answer is: . Round ligament pain

**Question 276**

Not answered

Marked out of 1.00

A 39-year-old woman at 16 weeks' gestation complains of headaches, blurred vision, and epigastric pain. Her blood pressure is now 156/104 mmHg. Her uterine fundus is palpable 22 cm above her symphysis pubis. Fetal heart tones could not be heard with a handheld Doppler. She has 3+proteinuria. Which of the following is the most likely diagnosis?

Select one:

- ☐ maternal renal disease
- ☐ twin gestation
- ☐ hydatidiform mole
- ☐ anencephaly
- ☐ gestational diabetes mellitus

The onset of preeclampsia before the 20th week of pregnancy is clinically seen only with a hydatidiform mole. Advanced maternal age, uterine size greater than gestational weeks, and the absence of a fetal heartbeat are added features to suggest gestational trophoblastic disease. Hydramnios, which can be associated with anencephaly and other fetal developmental abnormalities, also predisposes to preeclampsia, but its onset does not occur before 24 weeks. Renal disease, diabetes mellitus, and chronic hypertension also increase the likelihood of preeclampsia, but not before 24 weeks of pregnancy. The incidence of preeclampsia is increased in twin gestation, but again, its onset is not before 24 weeks. (Cunningham et al., 2005, pp. 276–277)

The correct answer is: hydatidiform mole

**Question 277**

Not answered

Marked out of 1.00

A 28-year-old G3P0 has a history of severe menstrual cramps, prolonged, heavy periods, chronic pelvic pain, and painful intercourse. All of her pregnancies were spontaneous abortions in the first trimester. A hysterosalpingogram (HSG) she just had as part of the evaluation for recurrent abortion showed a large uterine septum. You have recommended surgical repair of the uterus. Of the patient's symptoms, which is most likely to be corrected by resection of the uterine septum?

Select one:

- ☐ . Dyspareunia
- ☐ . Chronic pelvic pain
- ☐ . Menometrorrhagia
- ☐ . Dysmenorrhea
- ☐ . Habitual abortion

(Katz, pp 315-316.) Vasectomy is performed by isolating the vas deferens, cutting it, and closing the ends by either fulguration or ligation. Complications that may arise include hematoma in up to 5% of subjects, sperm granulomas (inflammatory responses to sperm leakage), spontaneous reanastomosis, and, rarely, infections. Sexual function following healing is rarely affected.

The correct answer is: . Habitual abortion

**Question 278**

Not answered

Marked out of 1.00

A mother brings her daughter in to see you for consultation. The daughter is 17 years old and has not started her period. She is 4ft 10 in tall. She has no breast budding. On pelvic examination, she has no pubic hair. By digital examination, the patient has a cervix and uterus. The ovaries are not palpable. As part of the workup, serum FSH and LH levels are drawn and both are high. Which of the following is the most likely reason for delayed puberty and sexual infantilism in this patient?

Select one:

- ☐ . Müllerian agenesis
- ☐ . Adrenogenital syndrome (testicular feminization)
- ☐ . Gonadal dysgenesis
- ☐ . Kallmann syndrome
- ☐ . McCune-Albright syndrome

(Speroff, pp 345-350. Adashi, pp 1008-1015.) Delayed puberty is a rare condition, usually differentiated into hypergonadotropic (high FSH and LH levels) hypogonadism or hypogonadotropic (low FSH and LH) hypogonadism. The most common cause of hypergonadotropic hypogonadism is gonadal dysgenesis (ie, the 45,X Turner syndrome). Hypogonadotropic hypogonadism can be seen in patients with hypothalamic-pituitary or constitutional delays in development. Kallmann syndrome presents with amenorrhea, infantile sexual development, low gonadotropins, normal female karyotype, and anosmia (the inability to perceive odors). In addition to these conditions, many other types of medical and nutritional problems can lead to this type of delayed development (eg, malabsorption, diabetes, regional ileitis, and other chronic illness). Congenital adrenal hyperplasia leads to early pubertal development, although in girls the development is not isosexual (not of the expected sex) and would therefore include hirsutism, clitoromegaly, and other signs of virilization. Complete Müllerian agenesis is a condition in which the Müllerian ducts either fail to develop or regress early in fetal life. These patients have a blind vaginal pouch and no upper vagina, cervix, or uterus, and they present with primary amenorrhea. However, because ovarian development is not affected, secondary sexual characteristics develop normally despite the absence of menarche, and gonadotropin levels are normal. The McCune-Albright syndrome involves the constellation of precocious puberty, café au lait spots, and polyostotic fibrous dysplasia.

The correct answer is: . Gonadal dysgenesis

**Question 279**

Not answered

Marked out of 1.00

A 29-year-old woman comes to your office because she has been feeling depressed. She states that at times over the past several years she has regular occurrences of depression, anxiety, tearfulness, anger, and difficulty with work and social relationships. These occurrences have been increasing over the past several months. She doesn't remember when her symptoms start or end. "It's all a blur," she says. She has had several urinary tract infections in her life, but otherwise has no medical problems. She takes no medications and has no drug allergies. Physical examination is normal. Which of the following is the most appropriate next step in caring for this patient?

Select one:

- ☐ . Schedule an MRI of the brain
- ☐ . Have her keep a symptom calendar
- ☐ . Schedule a pelvic ultrasound
- ☐ . Start the patient on a benzodiazepine
- ☐ . Start the patient on a selective serotonin reuptake inhibitor

This patient presents with a constellation of symptoms including depression, anxiety, tearfulness, and anger. These symptoms interfere with her work and personal relationships. When these symptoms occur in an ovulating woman on a cyclic basis in the week before menses, with resolution in the first few days of the menses, the diagnosis of premenstrual dysphoric disorder may be given to the patient. The problem in diagnosing this patient is that it is not at all clear what the timing and pattern of her symptoms are. A woman who suffers from symptoms such as this on a constant basis with no relationship to the menstrual cycle does not have premenstrual dysphoric disorder. Also, a woman who has these symptoms but is not ovulating (e.g., a postmenopausal woman) does not have premenstrual dysphoric disorder. To correctly diagnose premenstrual dysphoric disorder, it is therefore essential to know the timing and pattern of the patient's symptoms. Having the patient keep a calendar of symptoms is a useful tool to determine if there is a pattern related to the menstrual cycle. Trying to determine this pattern without a symptom calendar can be frustrating at best and impossible at worst, as the patient herself often cannot remember how she was feeling on a given day a month or two ago, or when exactly her menses started. Premenstrual dysphoric disorder can be diagnosed when the symptoms occur in the week before the start of the menses and resolve with the menses. This pattern should be documented by a symptom calendar over at least 2 months.

To schedule an MRI of the brain (choice B) would not be indicated at this point. This patient has symptoms that are consistent with premenstrual dysphoric disorder if, in fact, they are cyclically related to the menses. A symptom calendar, not a brain MRI, is what this patient requires.

To schedule a pelvic ultrasound (choice C) is not correct. This patient has no complaints of pelvic or abdominal pain or irregular menses and her physical examination is normal.

To start the patient on a benzodiazepine (choice D) would be incorrect. This patient has not been diagnosed yet. To start her on a medication without establishing a diagnosis would not be correct.

To start the patient on a selective serotonin reuptake inhibitor (SSRI) (choice E) would not be correct. Again, a diagnosis has not been established yet for this patient. If it is determined that she does have premenstrual dysphoric disorder, an SSRI is a good choice for first-line treatment.

The correct answer is: . Have her keep a symptom calendar

**Question 280**

Not answered

Marked out of 1.00

A 23-year-old woman who is 26 weeks pregnant presents to the emergency department with sudden onset severe shortness of breath and inability to lie flat. She recently emigrated from Eastern Europe. Her medical history is significant for recurrent sore throats requiring tonsillectomy as a child. Presently, her blood pressure is 110/60 mmHg and her heart rate is 120/min. An EKG rhythm strip suggests atrial fibrillation. Which of the following is the most likely diagnosis?

Select one:

- ☐ . Mitral stenosis
- ☐ . Myocardial infarction
- ☐ . Aortic insufficiency
- ☐ . Hypertrophic cardiomyopathy
- ☐ . Constrictive pericarditis

This young woman presents with atrial fibrillation and symptoms of pulmonary edema, suggesting a diagnosis of mitral stenosis. Rheumatic heart disease is the leading cause of mitral stenosis worldwide. The consequence of untreated *Streptococcus pyogenes* infection, rheumatic heart disease is most common in countries with limited access to antibiotics. Affected women often become symptomatic during pregnancy because of the physiologically increased total

blood volume. Pulmonary edema and atrial fibrillation may occur due to left atrial overload and enlargement. Physical exam may reveal a diastolic rumble at the apex and/or an opening snap.

(Choice A) Hypertrophic cardiomyopathy is a common cause of sudden death in young people, particularly African Americans. In this condition, a hypertrophic intraventricular septum obstructs the left ventricular outflow tract. Hypovolemia and other conditions that decrease venous return worsen symptoms.

(Choice B) Constrictive pericarditis may present as heart failure in a young patient. However, it is not a common cause of atrial fibrillation and does not classically present during pregnancy.

(Choice D) Myocardial infarction can cause heart failure, pulmonary edema, and atrial fibrillation, but this particular patient is low risk based upon her age and gender. Given that she is an immigrant from Eastern Europe, mitral stenosis is much more likely to be responsible.

(Choice E) Aortic insufficiency may result from rheumatic heart disease and can present with heart failure and atrial fibrillation, but it is less common than mitral stenosis in women of childbearing age.

Educational objective:

Mitral stenosis classically presents during pregnancy. It is most often due to rheumatic fever and occurs much more often in countries with limited access to antibiotics.

The correct answer is: . Mitral stenosis



**Question 281**

Not answered

Marked out of 1.00

A 30-year-old woman in her second pregnancy presents to your office at 36 weeks gestation complaining of dull, low back pain. The pain is minimal in the morning, but increases at the end of the day. She also noticed ankle edema that appears at the end of the day. Her past medical history is insignificant. Her temperature is 36.7C (98F), blood pressure is 120/80 mmHg, pulse is 90/min, and respirations are 18/min. Urinalysis is normal. Which of the following is the most likely cause of this patient's complaints?

Select one:

- ☐ . Multiple myeloma
- ☐ . Increased lumbar lordosis
- ☐ . Compression fracture of the vertebrae
- ☐ . Herniated disk
- ☐ . Metastatic or primary tumor

Check

This patient presents with low back pain in the third trimester of pregnancy. It is a very common problem that is mechanical in nature. The main cause of this pain is believed to be the increase in lumbar lordosis. In addition, relaxation of the ligaments supporting the sacroiliac and other joints of the pelvic girdle due to hormonal factors may contribute to the problem.

Other mechanical causes like lumbosacral strain or lumbago (Choice D), or herniated disk (Choice E) are usually characterized by more acute onset and relatively stable intensity of the pain.

Chronic problems like ankylosing spondylitis (Choice B) develop slowly over several months/years. The back pain in ankylosing spondylitis is worse in the morning.

Educational objective:

Low back pain is a very common complaint in the third trimester of pregnancy. It is believed to be caused by the increase in lumbar lordosis and the relaxation of the ligaments supporting the joints of the pelvic girdle.

The correct answer is: . Increased lumbar lordosis

**Question 282**

Not answered

Marked out of 1.00

A 24-year-old woman delivers a normal 8-lb baby boy at 40 weeks of gestation. She has no history of drug abuse, and her pregnancy was unremarkable. Examination had revealed the placenta to be located normally, but following delivery the woman fails to deliver the placenta and subsequently

develops massive postpartum hemorrhage and shock. Emergency surgery is performed to stop the bleeding. Which of the following is the most likely cause of her postpartum bleeding?

Select one:

- ☐ . An invasive mole
- ☐ . An abruptio placenta
- ☐ . A placenta accreta
- ☐ . A placenta previa
- ☐ . A hydatidiform mole

Check

(Kumar, pp 1055, 1057-1061. Rubin, p 835. Chandrasoma, pp 809-811.)

Abruptio placenta refers to premature separation of a normally located placenta. This abnormality produces marked hemorrhage, premature labor, and fetal demise. Factors that predispose an individual to abruptio placenta include use of certain drugs (cocaine, alcohol), maternal hypertension, preeclampsia, multiparity, and increasing maternal age. Placenta previa occurs when the placenta implants in the lower uterine segment. This may also result in severe bleeding problems at the time of delivery. Vaginal examination of a patient with this condition could also be dangerous. Placenta accreta refers to the absence of the decidua and the direct attachment of the placenta to the myometrium. There is no plane of separation between the placental villi and the myometrium. It is an important cause of postpartum hemorrhage because the placenta fails to separate from the myometrium at the time of labor. The hemorrhage can be life-threatening, and a total hysterectomy is the treatment of choice. In both placenta accreta and placenta previa the villi are histologically normal and there is no trophoblastic proliferation.

In contrast, gestational trophoblastic disease refers to abnormal proliferation of trophoblastic tissue and includes hydatidiform mole, invasive mole, and malignant choriocarcinoma. These neoplasms all secrete  $\beta$ -human chorionic gonadotropin ( $\beta$ -hCG) and should be suspected clinically whenever the uterus is too large for the estimated gestational age and no fetal movement or heart sounds are present.

The correct answer is: . A placenta accreta

**Question 283**

Not answered

Marked out of 1.00

A 63-year-old nulligravid woman comes to the outpatient office complaining about intermittent painless vaginal bleeding. Her last menstrual period was 10 years ago. She is not on hormone therapy. She has never used oral contraceptives. She has struggled with obesity all her life. Her last Pap smear was a year ago and was negative for dysplasia or malignancy. Her pelvic examination is unremarkable without vulvar, vaginal, or cervical lesions. Her uterus is small, mobile, and nontender. No adnexal masses are palpable. Which of the following is the most likely diagnosis?

Select one:

- ☐ Submucous leiomyoma
- ☐ Molar pregnancy
- ☐ Endometrial carcinoma
- ☐ Vaginal foreign body
- ☐ Ectopic pregnancy

Check

Vaginal bleeding in a postmenopausal woman must be assumed to be endometrial carcinoma (choice C) until proven otherwise. A complete workup will require endometrial biopsy and hysteroscopy. The presence of a normal-sized uterus on pelvic examination cannot rule out endometrial cancer that is confined to the endometrium. The most likely cause of endometrial carcinoma is long periods of unopposed estrogen. This patient has many risk factors that include never being pregnant (with 9 months of high progesterone levels), absence of oral contraceptive use (which provides regular progestin effects that stabilize the endometrium), and obesity (with peripheral adipose cell conversion of adrenal androgens to estrogens).

The correct answer is: Endometrial carcinoma

**Question 284**

Not answered

Marked out of 1.00

A 16-year-old G0 female presents to your office for a routine annual gynecologic examination. She reports that she has previously been sexually active, but currently is not dating anyone. She has had three sexual partners in the past and says she diligently used condoms. She is a senior in high school and is doing well academically and has many friends. She lives at home with her parents and a younger sibling. She denies any family history of medical problems, but says her 80-year-old grandmother was recently diagnosed with breast cancer. She denies any other family history of cancer. She says she is healthy and has no history of medical problems or surgeries. She reports having had chicken pox. She smokes tobacco and drinks beer occasionally, but denies any illicit drug use. She had her first Pap smear and gynecologic examination last year with another doctor and reports that everything was normal. Her menses started at age 13 and are regular and light. She denies any dysmenorrhea. Her blood pressure is 90/60 mm Hg. Her height is 5ft 6 in and she weighs 130 lb. Based on this patient's history, what would be the most likely cause of death if she were to die at age 16?

Select one:

- ☐ . Cancer
- ☐ . Suicide
- ☐ . Motor vehicle accidents
- ☐ . Homicide
- ☐ . Heart disease

(Katz, pp 148-152. ACOG Guidelines for Women's Health Care, pp 145-158.)

The leading causes of death in teenagers between the ages of 13 and 18 years old, in order of decreasing frequency, are as follows: motor vehicle accidents, homicide, suicide, cancer, all other accidents, diseases of the heart, congenital anomalies, and chronic obstructive pulmonary diseases.

The correct answer is: . Motor vehicle accidents