Obs & Gynae Protocols

THIS SECTION SERVES AS AN ADDENDUM TO OUR PROTOCOLS

EVEN THOUGH WE DO NOT REGULARLY SEE OBSTETRIC EMERGENCIES AT OUR A&E, WE STILL NEED TO KNOW HOW TO MANAGE SUCH CASES PRIOR TO TRANSFER TO NEWCASTLE PROVINCIAL HOSPITAL

PLEASE TRY AND FAMILIARISE YOURSELF WITH THESE PROTOCOLS AND THEY MAY ALSO BE OF USE TO OUR DOCTORS WHO ROTATE THROUGH THE OBS & GYNAE DEPARTMENT OF NPH

THANK YOU

DR Y MAHOMED

GENERAL PRINCIPLES

PAY PARTICULAR ATTENTION TO

- MENSTRUAL HISTORY
- SITE OF PAIN
- PRESENCE OF VAGINAL DISCHARGE
- URINARY SYMPTOMS
- CONTRACEPTIVE HISTORY
- POTENTIAL FOR BEING PREGNANT
    - ALL PATIENTS OF CHILD BEARING AGE SHOULD HAVE A PREGNANCY TEST DONE
- GRAVIDA AND PARITY

MAKE SURE TO GUARD THE PATIENTS PRIVACY AND HAVE A CHAPERONE PRESENT

GYNAE CAUSES OF ACUTE ABDOMINAL PAIN

- RUPTURED ECTOPIC PREGNANCY
- PID
- RUPTURED OVARIAN CYST
- TORSION OF AN OVARIAN TUMOR
- ENDOMETRIOSIS

RUPTURED ECTOPIC PREGNANCY

ALTHOUGH I HAVE COVERED EARLY PREGNANCY BLEEDING IN THE MAIN PROTOCOLS (PAGE 161) ,I WOULD LIKE TO RE-EMPHASISE IN THESE SECTIONS

ECTOPIC PREGNANCIES ARE MORE COMMON IN LADIES WHO HAVE HAD

- PREVIOUS ECTOPIC PREGNANCY
- RECURRENT PID
- PREVIOUS TUBAL SURGERY
- ASSISTED REPRODUCTIVE TECHNIQUES
- USING AN IUCD
- 50% HAVE NO PREDISPOSING FACTORS

MOST COMMON IN THE 5-9TH WEEK OF PREGNANCY

MOST OF THESE PTS HAVE THE THREE P's

- PAIN
    - MOST LOWER ABDOMINAL
    - CAN HAVE SIGNS OF SEVERE PERITONITIS, EITHER LOCALISED OR GENERALISED
- PALLOR
    - CAN RANGE FROM MILD TO LIFE-THREATENING HAEMODYNAMIC INSTABILITY
- PV BLEEDING
    - CAN RANGE FROM MILD TO SEVERE, BUT IS GENERALLY SCANTY

MANAGEMENT

PLEASE NOTE THAT WE ARE TALKING ABOUT UNSTABLE PTS WITH LIFE-THREATENING RUPTURE OF AN ECTOPIC PREGNANCY

- INSERT 2 LARGE BORE IV LINES
- TAKE ALL BASELINE BLOODS INCLUDING ABG AND A CROSS MATCH
- IF PT IS CLINICALLY PALE START EMERGENCY BLOOD IN A&E
- ADMINISTER HIGH FLOW O2 VIA MASK
- RESUS ACCORDING TO PRINCIPLES OF HYPOVOLAEMIC SHOCK OUTLINED IN MAIN PROTOCOLS **PAGE 148**

IN THE CASE OF A HAEMODYNAMICALLY STABLE PT WHERE THE DIAGNOSIS IS A FINDING DURING INVESTIGATION OF LOWER ABDOMINAL PAIN

GENERALLY THE DIAGNOSIS IS MADE ON ULTRASOUND

THE PT SHOULD HAVE HAD A ROUTINE PREGNANCY TEST

- SET UP PERIPHERAL IV ACCESS
- TAKE ALL BASELINE BLOODS INCLUDING B-HCG
- CONTACT THE CONSULTANT AT NPH AND ARRANGE FURTHER MX AT THEIR FACILITY
- IF AN ULTRASOUND COULD NOT BE OBTAINED, EG AFTER HOURS, THE PT SHOULD NOT BE TRANSFERRED UNTIL THE SURGICAL TEAM HAS EXAMINED AND EXCLUDED OTHER CAUSES AND ASKED FOR THE TRANSFER

PELVIC INFLAMMATORY DISEASE

GENERALLY PRESENTS AS

- FEVER
- MALAISE
- LOWER ABDOMINAL PAIN
- MENSTRUAL IRREGULARITIES
- DYSPAREUNIA
- MUCOPURULENT VAGINAL DISCHARGE

PV EXAMINATION REVEALS

- CERVICAL DISCHARGE
- ADNEXAL TENDERNESS
- CERVICAL MOTION TENDERNESS

REMEMBER TO PERFORM A PREGNANCY TEST

WE NORMALLY ENCOUNTER ALL GRADES OF PID

YOUR HISTORY IS OF VITAL IMPORTANCE

YOUR EXAMINATION OF ANY FEMALE WITH LOWER ABDOMINAL IS INCOMPLETE WITHOUT A VAGINAL EXAM

MANAGEMENT

GRADE 1 OR 2 PID WITH NO EVIDENCE OF UNDERLYING SEPTIC SHOCK OR SIGNS OF AN ACUTE ABDOMEN

- DISCHARGE WITH
    - ANALGESIA
    - CIPROFLOXACIN 500MG PO BD
    - FLAGYL 400MG PO TDS
    - DO BASELINE BLOOD TESTS
- THEY SHOULD BE ISSUED WITH A REFERRAL LETTER TO ATTEND THE SPECIALIST CLINIC AT NPH AS AN OUTPATIENT

GRADE 3-4 PID

- IDEALLY THE DIAGNOSIS SHOULD BE CONFIRMED WITH AN ULTRASOUND TO EXCLUDE TUBO-OVARIAN ABSCESS
    - IV FLUIDS
    - IV ROCEPHIN 2G STAT
    - ANALGESIA
- THE PT SHOULD THEN BE DISCUSSED WITH CONSULTANT AT NPH FOR TRANSFER

- IF THE DIAGNOSIS CANNOT BE CONFIRMED BY ULTRASOUND, OR IF THE DIAGNOSIS IS NOT CERTAIN
    - THE PT SHOULD BE EXAMINED BY THE SURGICAL TEAM TO EXCLUDE OTHE CAUSES OF ABDOMINAL PAIN
    - IF THEY HAVE CONCLUDED THAT IT IS UNLIKELY TO BE OF SURGICAL ORIGIN THEN THE PT CAN BE DISCUSSED WITH THE CONSULTANT AT NPH FOR FURTHER MANAGEMENT
    - IF THE SURGICAL TEAM IS UNSURE OF DIAGNOSIS THEN THE ONUS IS ON THEM TO MANAGE THE PT FURTHER IN THEIR WARD UNTIL FURTHER INVESTIGATIONS CAN BE DONE

NB!!! IF THE PATIENT IS IN SEPTIC SHOCK THEN PLEASE MANAGE AS PER SEPTIC SHOCK GUIDELINES IN MAIN PROTOCOL SECTION PAGE 143

RUPTURED OVARIAN CYST

THESE PTS HAVE SUDDEN ONSET LOWER ABDOMINAL PAIN WITHOUT PYREXIA

THE PAIN IS VERY LOCALISED BUT NO MASS CAN BE FELT

THE PREGNANCY TEST IS NEGATIVE

THE DIAGNOSIS CAN ONLY BE CONFIRMED ON ULTRASOUND

OUR MANAGEMENT INVOLVES ANALGESIA AND INVOLVEMENT OF THE SURGICAL TEAM IF WE CANNOT GET A CONFIRMED ULTRASOUND DIAGNOSIS

ENDOMETRIOSIS

THESE PTS GENERALLY HAVE A LONG HISTORY OF

- MENSTRUAL IRREGULARITIES
- ABDOMINAL PAIN
- FLANK PAIN
- DYSMENNORHEA
- DYSPAREUNIA
- PAINFUL DEFECATION
- INFERTILITY
- OCCASIONAL PR OR URINARY BLEEDING AT TIME OF MENSES IF ENDOMETRIUM IS IN THESE STRUCTURES

EXAMINATION IS USUALLY NORMAL

EXCLUDE PREGNANCY

GENERALLY THESE PTS DO NOT PRESENT AS AN EMERGENCY UNLESS THEY HAVE RUPTURE OF THE SO CALLED ‘CHOCOLATE CYST’

THIS MAY PRESENT AS AN ACUTE PERITONITIS OF LOWER ABDOMEN AND REQUIRES U/S OR SURGICAL REVIEW

OVARIAN TORSION

OVARIAN TORSION IS A SURGICAL EMERGENCY THAT REQUIRES PROMPT DIAGNOSIS TO PRESERVE OVARIAN FUNCTION

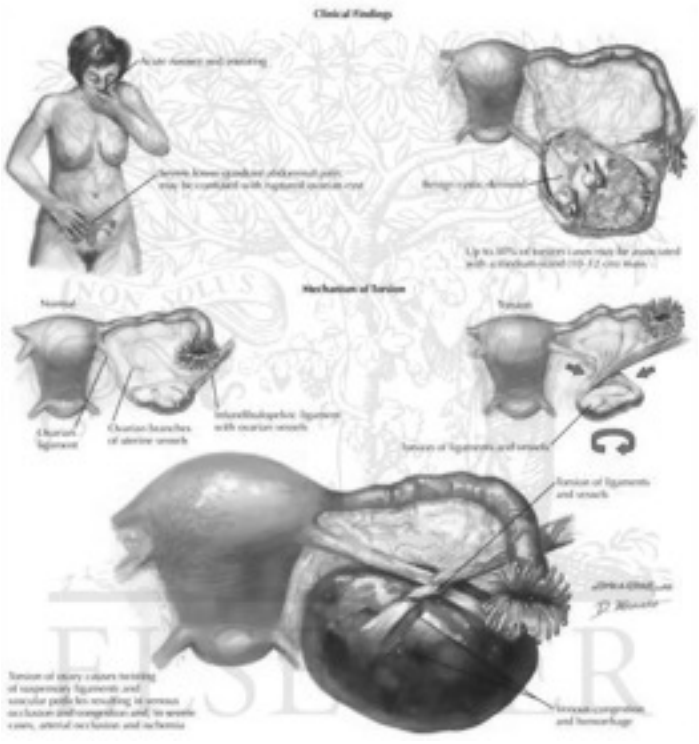
THE MOST COMMON SYMPTOMS ARE

- SUDDEN ONSET SEVERE ABDOMINAL PAIN
- UNILATERAL
- LOWER ABDOMINAL PAIN
- MAY DEVELOP AFTER EXERTION
- NAUSEA AND VOMITING
- ADNEXAL TENDERNESS
- LATERO-UTERINE MASS

THE MAIN MODALITY FOR DIAGNOSIS IS U/S WITH DOPPLER FLOW MEASUREMENTS

HOWEVER EVEN IF NO U/S IS AVAILABLE, AND IF CLINICAL SUSPICION IS HIGH, THE PT SHOULD BE DISCUSSED WITH THE SURGICAL TEAM TO EXCLUDE OTHER CAUSES

THE PATIENT MAY BE TRANSFERRED TO NPH AFTER SURGICAL CONSULTATION RULES OUT OTHER CAUSES AND IT HAS BEEN DISCUSSED WITH THE CONSULTANT AT NPH



EMERGENCIES IN EARLY PREGNANCY

I HAVE COVERED SOME OF THIS IN THE MAIN PROTOCOLS BUT WILL TRY AND COVER IT IN MORE DETAIL IN THE FOLLOWING PAGES

PLEASE REMEMBER THAT A PREGNANCY TEST SHOULD BE DONE ON ALL WOMEN OF CHILDBEARING AGE

ECTOPIC PREGNANCY

All Patients	Pregnant Patients
Appendicitis	Normal (intrauterine pregnancy)
Inflammatory bowel disease	Threatened abortion
Ovarian pathology	Inevitable abortion
Cyst	Molar pregnancy
Torsion	Heterotopic pregnancy*
Pelvic inflammatory disease	Implantation bleeding
Endometriosis	Corpus luteum cyst
Sexual assault/trauma	
Urinary tract infection	
Ureteral colic	

DIFFERENTIAL DIAGNOSIS OF ECTOPIC PREGNANCY

THE MAJOR RISK FACTORS FOR ECTOPIC PREGNANCY ARE

- PID
- PREVIOUS STDs
- HISTORY OF TUBAL SURGERY OR TUBAL LIGATION
- IUCD IN SITU AT TIME OF PREGNANCY
- AGE 35-44

- ASSISTED REPRODUCTION
- PREVIOUS ECTOPIC
- SMOKING
- PREVIOUS ABORTION

OFTEN IN THE A&E WE ARE FACED WITH THREE DIFFERENT SCENARIOS

1. PT WITH LOWER ABDOMINAL PAIN WHO WE DISCOVER IS PREGNANT
2. PT WHO IS ON MEDICAL TREATMENT FOR ECTOPIC PREGNANCY
3. A PT IN HYPOVOLAEMIC SHOCK WHO WE DISCOVER IS PREGNANT

MANAGEMENT OF (1)

THESE PTS ARE OFTEN HAEMODYNAMICALLY STABLE, AND EVEN WITH A THOROUGH HISTORY AND EXAMINATION IT MAY BE VERY DIFFICULT TO DISCERN IF AN ECTOPIC PREGNANCY IS PRESENT

IT MUST HOWEVER BE VERY HIGH ON YOUR LIST OF DIFFERENTIALS

THE ONLY CONCLUSIVE WAY TO DIAGNOSE IS WITH AN ULTRASOUND

IF A RADIOLOGIST IS AVAILABLE THIS NEEDS TO BE DONE ASAP

IF AN ECTOPIC IS CONFIRMED THEN THE PT REQUIRES URGENT TRANSFER TO NPH AFTER DISCUSSION WITH THE CONSULTANT THERE

THIS IS REGARDLESS OF WETHER IT IS RUPTURED OR NOT

IF THERE IS NO ULTRASOUND AVAILABLE THEN WE ASSUME IT IS AN ECTOPIC UNTIL PROVEN OTHERWISE

- PROVIDE THE PT WITH ANALGESIA
- KEEP THE PT ON OXYGEN
- DO NOT DO UNNECESSARY FURTHER PELVIC EXAMINATIONS
- AVOID REPEATED BIMANUAL EXAMINATION
- TAKE ALL BASELINE BLOODS AND INCLUDE A QUANTITATIVE B-HCG
- INVOLVE SURGEONS TO EXCLUDE OTHER CAUSES OF ABDOMINAL PAIN
- IF THE SURGICAL TEAM ALSO CONCURS THAT ECTOPIC IS THE MOST LIKELY, THEN TRANSFER THE PT TO NPH AFTER CONSULTATION WITH CONSULTANT THERE

FURTHER MANAGEMENT IS AT THEIR DISCRETION

MANAGEMENT OF (2)

SOME PTS ARE STARTED ON METHOTREXATE AS AN ALTERNATIVE TO SURGICAL TREATMENT FOR AN ECTOPIC

ALTHOUGH NOT COMMONLY DONE AT A PUBLIC HEALTH LEVEL HERE IN SA, AS MOST FEMALES DO NOT HAVE EARLY ULTRASOUND SCREENINGS DONE ROUTINELY, IT MAY STILL BE POSSIBLE IN THOSE WHO HAVE BEEN MANAGED BY PRIVATE OBSTETRICIANS

IF THESE PTS PRESENT WITH LOWER ABDOMINAL PAIN AND POSSIBLE BLEEDING , THEY MUST BE MANAGED AS A RUPTURED ECTOPIC PREGNANCY

THEY REQUIRE URGENT OBSTETRIC MANAGEMENT REGARDLESS OF AVAILABILITY OF AN ULTRASOUND OR NOT

MANAGEMENT OF (3)

SUCH A PATIENT SHOULD BE REGARDED AS AN ACUTE ECTOPIC PREGNANCY

RESUSCITATION SHOULD FOLLOW THE GUIDELINES SET OUT IN THE MAIN PROTOCOLS **PAGE 148**

I AM INCLUDING A COPY OF THEM HERE

REMEMBER WE REGARD THIS AS UNCONTROLLED INTERNAL BLEEDING

THE MAIN AIM IS TO TRY AND GET OUR PT AS HAEMODYNAMICALLY STABLE AS POSSIBLE

IF THE PT APPEARS AT ALL TOO UNSTABLE FOR TRANSPORT THEN THE SURGICAL TEAM HAS TO BE INVOLVED AS THEY CAN ALSO MANAGE THE PATIENT

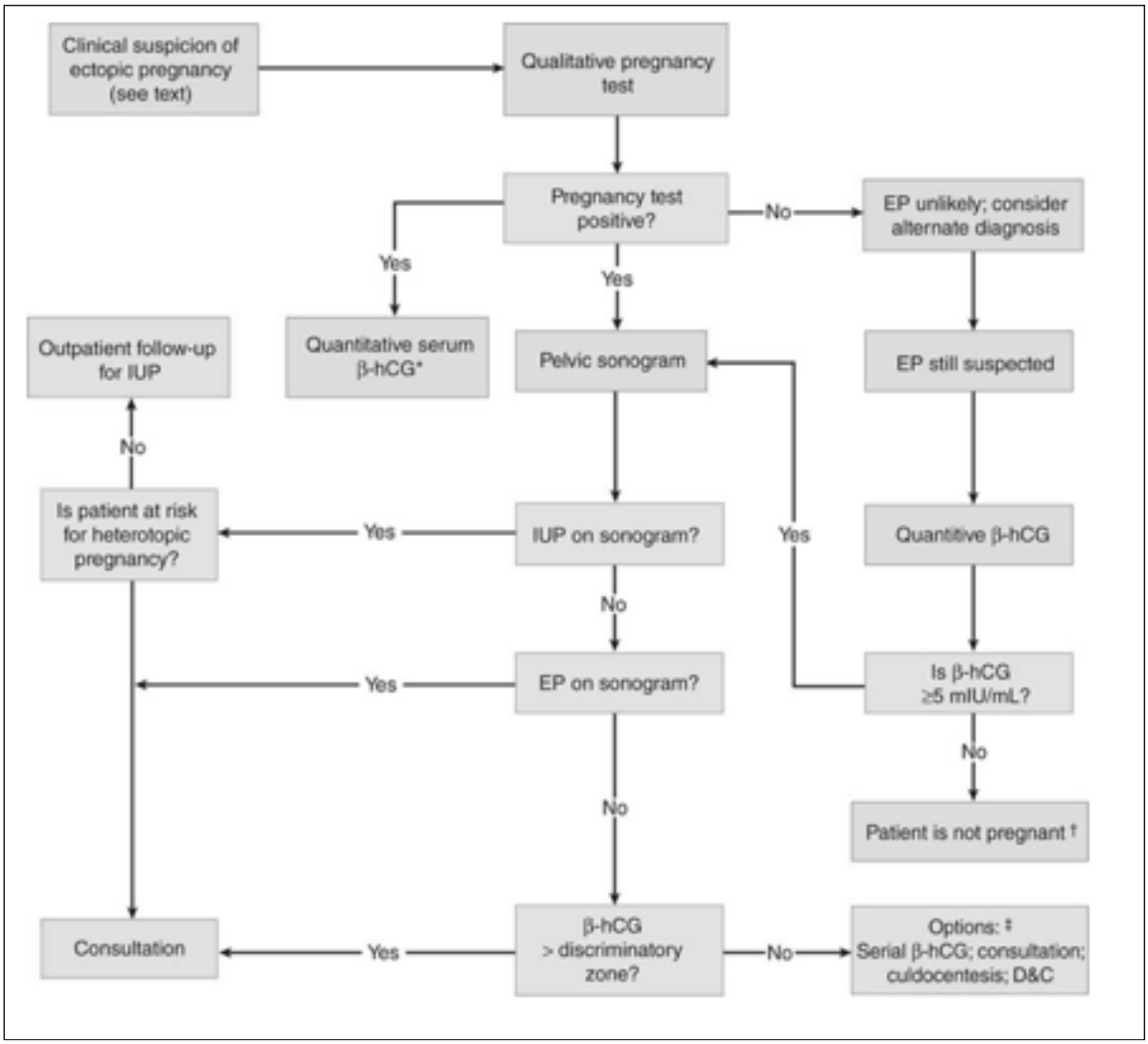
THEY ARE OUR SECOND LINE HOWEVER, ANY PT WHO DOES STABILISE AFTER FLUID RESUSCITATION SHOULD BE DISCUSSED WITH THE CONSULTANT AT NPH

THE OTHER SLIGHT DIFFERENCE IS THAT IF MORE EMERGENCY BLOOD IS NEEDED PRIOR TO TRANSPORT OR THEATRE, IT SHOULD NOT BE WITHHELD

HOWEVER IT SHOULD ALSO NOT BE WASTED, AND IF 1 UNIT IS SUFFICIENT, WE SHOULD X-MATCH AND ORDER ASAP

MANAGEMENT

- IMMEDIATELY ARREST ANY EXTERNAL BLEEDING BY APPLYING DIRECT PRESSURE OR A TOURNIQUET AS DESCRIBED IN THE TRAUMATIC AMPUTATION SECTION
- INTERNAL BLEEDING , ESPECIALLY LIFE THREATENING BLEEDS, REQUIRE EARLY SURGICAL INTERVENTION
    - STABILISE THE PT AS MUCH AS POSSIBLE IN A&E
    - BUT DON'T LET THIS DELAY YOU GETTING A TEAM MEMBER TO CONTACT THE SURGICAL DEPARTMENT
- IF THE PT HAS UNCONTROLLED HAEMORRHAGE THE LATEST STUDIES SUGGEST
    - **DO NOT GIVE FLUID INDISCRIMINATELY**
    - **YOU SHOULD NOT TRY AND GET THE PTS BP UP TO NORMAL LEVELS**
    - **AIM FOR A SYSTOLIC OF 80-90MM HG**
    - **THIS CAN BE ACHIEVED BY GIVING BOLUSES OF 100-200 ML OF RINGERS LACTATE AT A TIME**
    - **AVOID THE USE OF NORMAL SALINE**
    - **AVOID THE USE OF VOLUVEN**
    - **NB!! THIS ABOVE REGIMEN ONLY APPLIES TO UNCONTROLLED HAEMORRHAGE**
- EMERGENCY BLOOD MAY BE USED EARLY IF THE PT IS CLINICALLY PALE
    - AVOID USING MORE THAN A SINGLE UNIT IN A&E
    - PTS SHOULD BE TRANSFERRED TO THEATRE TO CONTROL BLEEDING THEN TRANSFUSED
    - **IT NO USE TRYING TO TOP UP A BUCKET WITH A BIG HOLE IN IT!!!**
- YOU WILL KNOW THAT YOU ARE RESUSCITATING EFFECTIVELY IF
    - BP REMAINS 80-90 MMHG
    - HR LOWERS
    - SATS STABILIZE
    - LACTATE LEVELS ARE DECREASING
    - BICARBONATE LEVELS ARE NORMALISING



ALGORITHM FOR UN-RUPTURED ECTOPIC

SPONTANEOUS ABORTION

Terminology	Definition
Threatened abortion	Pregnancy-related bloody vaginal discharge or frank bleeding during the first half of pregnancy without cervical dilatation
Inevitable abortion	Vaginal bleeding and dilatation of the cervix
Incomplete abortion	Passage of only parts of the products of conception
	More likely to occur between 6 and 14 weeks of pregnancy
Complete abortion	Passage of all fetal tissue, including trophoblast and all products of conception, before 20 weeks of conception
Missed abortion	Fetal death at <20 weeks without passage of any fetal tissue for 4 weeks after fetal death
Septic abortion	Evidence of infection during any stage of abortion

TERMINOLOGY IN SPONTANEOUS ABORTION

ONCE PREGNANCY HAS BEEN ESTABLISHED THE NEXT IMPORTANT STEP IS TO DO A PV EXAMINATION TO DETERMINE THE TYPE OF ABORTION

ALWAYS REMEMBER TO ALSO DO

- FBC
- KEEP A X-MATCH
- U-DIPSTIX FOR INFECTION
- CLOTTING PROFILE

TEXTS AND OTHER EMERGENCY MEDICINE GUIDELINES INSIST ON B-HCG LEVELS, BUT AS THESE CAN TAKE A FEW DAYS TO GET TO US , WE OMIT IT IN OUR CASE

IDEALLY AN ABDOMINAL U/S SHOULD BE OBTAINED , BUT IF IT IS UNAVAILABLE WE GO ON CLINICAL FINDINGS

THIS IS NOT A SITUATION IN WHICH THE SURGICAL TEAM IS INVOLVED, BUT THESE PATIENTS NEED TO BE DISCUSSED WITH THE CONSULTANT AT NPH

THREATENED ABORTION

IT IS GENERALLY AGREED UPON THAT THESE PTS ARE MANAGED CONSERVATIVELY

- BED REST
- AVOID INTERCOURSE
- AVOID TAMPONS

HOWEVER IN OUR CIRCUMSTANCE THEY SHOULD BE EVALUATED BY THE TEAM AT NPH

SPEAK TO THE CONSULTANT, VERY OFTEN THEY WILL ACCEPT THE PATIENT FOR TRANSFER DURING WORKING HOURS, AFTER HOURS THEY WILL DECIDE IF THE PT REQUIRES URGENT TRANSFER OR TRANSFER THE NEXT DAY ,(MOST LIKELY TRANSFER DURING WORKING HOURS)

THE PT SHOULD NOT BE DISCHARGED FROM OUR A&E WITH A REFERRAL TO GO TO THE SPECIALIST CLINIC AT NPH

IF TRANSFER IS NOT GOING TO TAKE PLACE IMMEDIATELY, THEN KEEP THE PT COMFORTABLE WITH ANALGESIA AND PERIODIC OBSERVATIONS.

THEY DO NOT HAVE TO OCCUPY A BED BUT SHOULD BE PLACED IN AN AREA WHERE THEY CAN BE EASILY LOCATED SUCH AS THE X-RAY WAITING AREA

ANY PROGRESSION OF SYMPTOMS SHOULD BE NOTED AND THEN THEY SHOULD BE RE-DISCUSSED WITH NPH

INEVITABLE,INCOMPLETE,COMPLETE & MISSED ABORTION

ALL OF THESE PTS SHOULD BE MANAGED AT NPH AND SHOULD NOT BE DISCHARGED FROM OUR A&E UNDER ANY CIRCUMSTANCES

OUR MAIN FOCUS IS ENSURING THAT THE PATIENT IS STABLE

SOME PATIENTS MAY PRESENT WITH SIGNIFICANT UNCONTROLLED BLEEDING

- INSERT 2 LARGE BORE IV LINES
- GIVE CRYSTALLOIDS AS WE WOULD GIVE FOR HYPOVOLAEMIC SHOCK

        - IN THIS INSTANCE USING COLLOIDS FOR SHORT TERM IMPROVEMENT OF HAEMODYNAMIC STATUS IS ACCEPTABLE
- ON EXAMINATION TRY AND REMOVE WHATEVER CLOTS ARE PRESENT
        - BUT DO NOT BE TOO VIGOROUS
        - REMOVE WHAT COMES AWAY EASILY
- TAKE ALL BASELINE BLOODS INCLUDING AN ABG AND X-MATCH
- TRANSFUSE IF PT IS CLINICALLY PALE
- GIVE A UNIT OF FDP
        - A SECOND UNIT MAY BE REQUIRED IF BLEEDING DOES NOT EASE
- PROVIDE ANALGESIA SUCH AS MORPHINE FOR SEVERE PAIN
        - USE INCREMENTS OF 1MG UNTIL PAIN IS CONTROLLED

THESE PATIENTS NEED TO BE DISCUSSED URGENTLY WITH THE CONSULTANT AT NPH

WE DO NOT TRANSFER UNSTABLE PATIENTS

DO YOUR BEST TO ENSURE THE PATIENT WILL BE ABLE TO UNDERGO THE TRANSFER WITHOUT FURTHER COMPLICATIONS

IF YOU HAVE A HAEMODYNAMICALLY STABLE PT THEY MAY BE TRANSFERRED, BUT IN YOUR REFERRAL INCLUDE ALL RESUSCITATIVE MEASURES

IF THE PATIENT IS TOO UNSTABLE, THE D&C MAY HAVE TO BE DONE AT OUR HOSPITAL

THIS IS NOT THE JUNIOR DOCTORS CALL, ALERT ICU/ANAESTHETISTS, THEY WILL HAVE TO EVALUATE THE PATIENT, AND THE DECISION TO TRANSFER WILL TAKE PLACE BASED ON THEIR DISCUSSION WITH NPH CONSULTANT

SEPTIC ABORTION

AN ABORTION COMPLICATED BY INFECTION, IN OUR SETTING OFTEN DUE TO 'BACKDOOR' ABORTIONS

BUT MAY ALSO BE DUE TO RETAINED PRODUCTS

CAN ALSO BE DUE TO UNSTERILE TECHNIQUE DURING THERAPEUTIC ABORTION

DO ALL BASELINE BLOODS BUT INCLUDE A BLOOD CULTURE PRIOR TO INTIAL ANTIBIOTICS

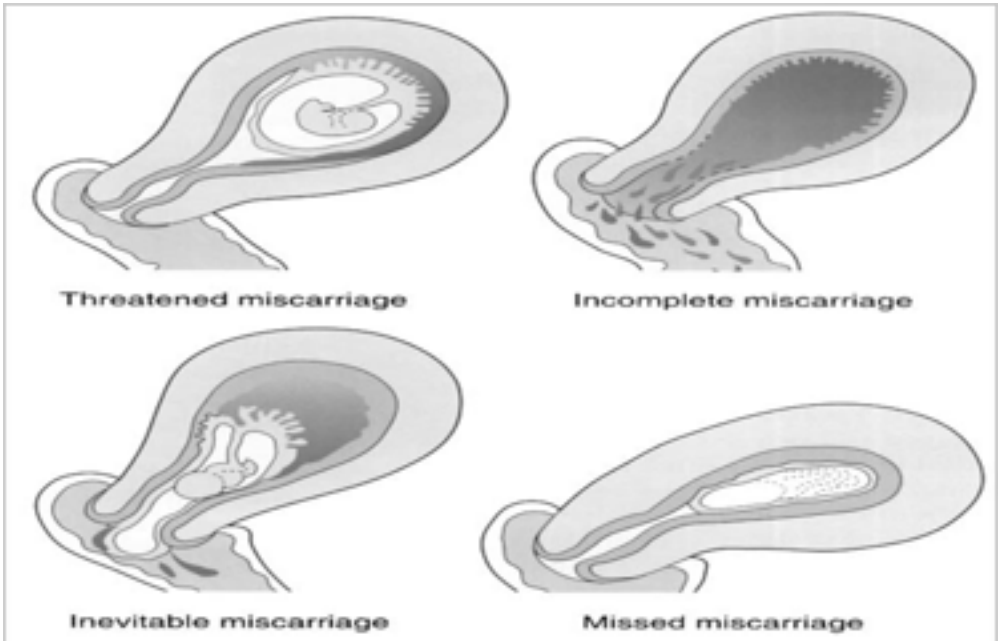
THESE PTS SHOULD BE GIVEN ROCEPHIN 2G IVI STAT BY US, ALONG WITH APPROPRIATE IV FLUIDS

IF THE PT IS IN SEPTIC SHOCK, THEN THEY SHOULD BE MANAGED ACCORDING TO OUR SEPTIC SHOCK PROTOCOL **PAGE 143**

PTS WITH MILD TO MODERATE SEPSIS CAN NORMALLY BE TRANSFERRED QUITE SAFELY

THOSE IN SEVERE SHOCK, I.E NOT RESPONDING TO FLUIDS, AND REQUIRING INOTROPIC SUPPORT, HAVE TO BE EVALUATED BY ICU/ ANAESTHETIST PRIOR TO TRANSFER

AGAIN, PLEASE NOTE ALL RESUSCITATIVE MEASURES IN YOUR REFERRAL LETTER



HYPEREMESIS GRAVIDARUM

INTRACTABLE VOMITING WITH WEIGHT LOSS, VOLUME DEPLETION, HYPOKALEMIA OR KETOSIS

THESE PATIENTS SHOULD HAVE AN FBC, U&E,TFT AND URINALYSIS (KETONURIA IS A MARK OF EARLY STARVATION)

IN DIABETIC PREGNANT PTS DKA MUST BE EXCLUDED BY AN ABG

THE PRESENCE OF ABDOMINAL PAIN IN THE NAUSEA AND VOMITING OF PREGNANCY AND HYPEREMESIS IS UNUSUAL AND SHOULD SUGGEST AN ALTERNATE CAUSE

- **ECTOPIC PREGNANCY**
- **CHOLELITHIASIS AND CHOLECYSTITIS**
- **GASTROENETERITIS**
- **PANCREATITIS**
- **APPENDICITIS**
- **HEPATITIS**
- **PUD**
- **PYELONEPHRITIS**
- **FATTY LIVER OF PREGNANCY**
- ***HELLP* SYMDROME** (*H*- HAEMOLYSIS *EL*- ELEVATED LIVER ENZYMES *LP*- LOW PLATELETS)

MANAGEMENT IS WITH IV FLUIDS, EITHER 5% GLUCOSE OR RINGERS LACTATE.

PT SHOULD RECEIVE ENOUGH TO REVERSE THEIR HYPOVLAEMIA AND KETONURIA

DRUGS

IN OUR SETTING WE HAVE 2 AVAILABLE MEDICATIONS FOR IV AND ORAL USE

IDEALLY THE PT SHOULD BE KEPT NPO UNTIL N&V HAVE RESOLVED

Antiemetic	Brand Name	U.S. Food and Drug Administration Category	PO	PR	IV
Promethazine	Phenergan	C	12.5–25 milligrams every 4 h	12.5–25 milligrams every 4 h	IV administration is generally recommended against; 12.5–25 milligrams IM every 4 h
Metoclopramide	Reglan	B	10 milligrams orally every 6–8 h	—	10 milligrams over 1–2 min every 6–8 h

DISCHARGE OR TRANSFER

THE PT MAY BE DISCHARGED FROM OUR A&E IF

- HAEMODYNAMICALLY STABLE
- NO KETONURIA
- TOLERATING ORAL FLUIDS

THEY MAY BE DISCHARGED ON ANTI-EMETICS FOR ELECTIVE FOLLOW-UP AT NPH

THE PT NEEDS TO BE TRANSFERRED IF

- THEY ARE HYPOVOLEMIC
- PERSISTENT KETONURIA
- UNABLE TO TOLERATE ORAL FLUIDS
- OTHER CAUSES OF N&V IN EARLY PREGNANCY HAVE BEEN EXCLUDED
    - THIS WOULD MEAN THE SURGICAL TEAM HAS TO ASSESS THE PT
    - PT SHOULD HAVE AN U/S (IF AVAILABLE) TO EXCLUDE OTHER CAUSES

ACUTE ASTHMA

ASTHMA IN PREGNANCY CAN PROVE TO BE CHALLENGING AS THERE ARE 2 PATIENTS

THE MAIN CONCERNS FOR US IN A&E ARE

- IST TRIMESTER- STEROIDS MAY CAUSE A CLEFT-LIP, BUT THIS SHOULD NOT STOP US FROM USING THEM IN AN EMERGENCY SITUATION
- B2AGONISTS CAN CAUSE A DELAY IN ONSET OF LABOUR
- PREGNANT FEMALES DECOMPENSATE FASTER

THE FIRST LINE OF TREATMENT IS TO START THE PT ON NEBULISATION

WE SHOULD NURSE THE MOTHER IN THE LEFT LATERAL POSITION

AND WE SHOULD CALL FOR HELP EARLY

MILD TO MODERATE ASTHMA

THESE PATIENTS SHOULD BE MANAGED AS WE WOULD MANAGE NON PREGNANT PATIENTS

START NEBULISATION AND DO NOT BE HESITANT TO GIVE IV STEROIDS SUCH AS SOLUCORTEF

THESE PTS SHOULD HAVE AN X-RAY AFTER WE HAVE OBTAINED CONSENT FOR THE PROCEDURE

HOWEVER IF THE PT HAS NOT IMPROVED AFTER INITIAL NEBULISATION AND IV STEROIDS DO NOT PROCEED TO ANY OF THE OTHER DRUGS ON OUR PROTOCOLS FOR ASTHMA WITHOUT INVOLVING THE INTERNAL MEDICINE DEPARTMENT

THE USE OF MEDS SUCH AS THEOPHYLLINE AND MAG-SULPH, WHILE NOT CONTRA-INDICATED, SHOULD ONLY BE GIVEN WHILE THERE IS FOETAL MONITORING TAKING PLACE

WE DO NOT HAVE A CTG, AND THE PT WILL HAVE TO BE DISCUSSED BY THE INTERNAL MED MO WITH BOTH THEIR OWN CONSULTANT AND THE OBSTETRIC CONSULTANT AT NPH

IF THE PATIENT DOES IMPROVE THEY SHOULD NOT BE DISCHARGED FROM OUR A&E, BUT SHOULD BE DISCUSSED WITH THE CONSULTANT AT NPH, WHO CAN ADVISE IF THE PT REQUIRES TRANSFER OR FOLLOW-UP AT

THEIR SPECIALIST CLINIC, THEY WILL ALSO ADVISE ON SUITABLE TTO MEDS

SEVERE ACUTE ASTHMA

IN THE CASE OF AN ACUTE SEVERE EXACERBATION

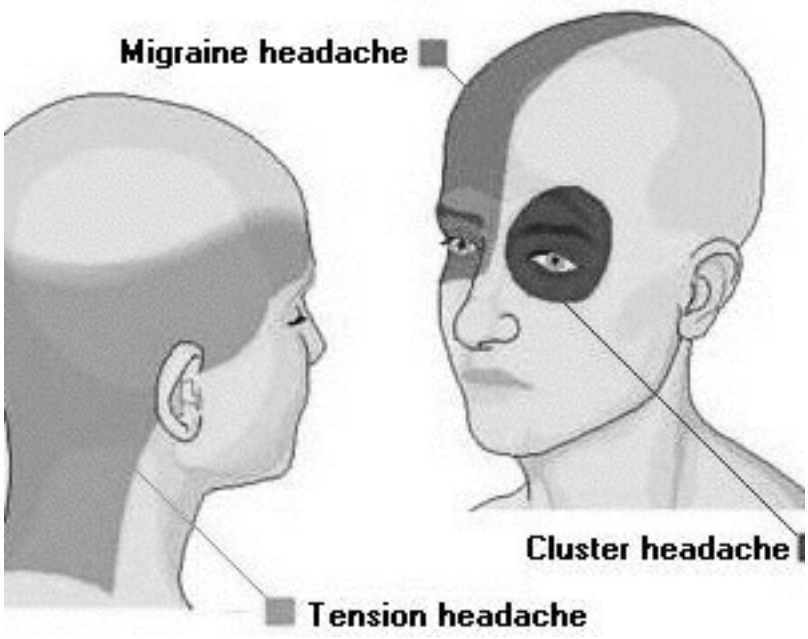
- BEGIN IMMEDIATE NEBULISATION
- ADMISTER IV SOLUCORTEF 200MG IV
- TRY AND MONITOR FOETAL HR WITH A FETOSCOPE EVERY 10MIN
    - TRY AND MONITOR RATE
    - IT IS VERY DIFFICULT TO PICK UP DECELERATIONS WITH A FETOSCOPE, LIMIT YOURSELF TO RECORDING THE RATE
- KEEP PT ON O2 VIA MASK
- KEEP SATS ABOVE 95%
- CALL FOR SENIOR HELP IMMEDIATELY
    - INTERNAL MEDICINE
    - ANAESTHETICS, AS PT MAY REQUIRE INTUBATION
- WE DO NOT GO FURTHER THAN THIS IN THE A&E, THESE PTS REQUIRE FURTHER MULTI-DISCIPLINARY SPECIALIST INTERVENTION
- EVEN IF THE PT SHOWS IMPROVEMENT , WE STILL INVOLVE THESE TEAMS

HEADACHE IN PREGNANCY

Life threatening
Subarachnoid hemorrhage
Intraparenchymal hemorrhage
Central venous thrombosis
Ischemic stroke
CNS tumor or infection
Pre-eclampsia/eclampsia
Non–life threatening
Tension headache
Migraine
Sinus headache
Benign intracranial hypertension (pseudotumor cerebri)

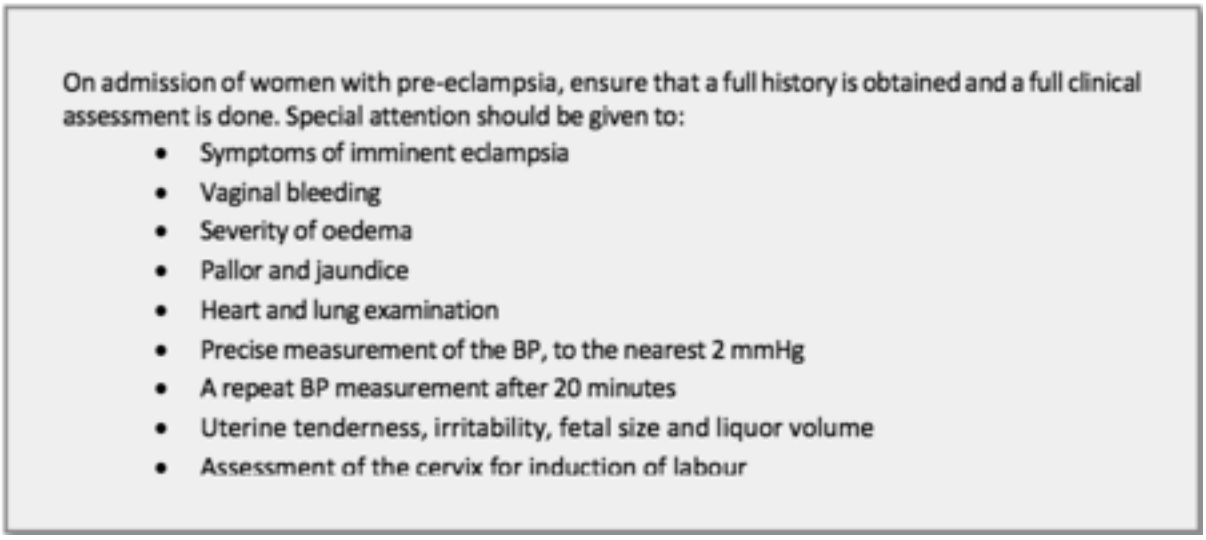
New-onset headaches in pregnancy
Postpartum headaches
Need to exclude cerebral vein thrombosis
Headaches with different characteristics from previous headaches
Worst headache of life
Focal neurologic deficit
Meningismus
Fever
Altered consciousness
Papilledema or other signs of increased intracranial pressure
Retinal hemorrhages
Increased blood pressure (may herald pre-eclampsia or eclampsia)

RED FLAGS FOR HEADACHE IN PREGNANCY



HYPERTENSIVE EMERGENCIES IN PREGNANCY

SEVERE PRE-ECLAMPSIA


On admission of women with pre-eclampsia, ensure that a full history is obtained and a full clinical assessment is done. Special attention should be given to:

- Symptoms of imminent eclampsia
- Vaginal bleeding
- Severity of oedema
- Pallor and jaundice
- Heart and lung examination
- Precise measurement of the BP, to the nearest 2 mmHg
- A repeat BP measurement after 20 minutes
- Uterine tenderness, irritability, fetal size and liquor volume
- Assessment of the cervix for induction of labour

THESE PTS SHOULD IDEALLY BE TRANSFERRED TO NPH ASAP

WHILE THESE PTS ARE IN OUR CARE WE SHOULD ENSURE THAT THE BP REMAINS BELOW 160/100

NIFEDIPINE 10MG SHOULD BE GIVEN ORALLY UP TO THREE TIMES AT HOURLY INTERVALS

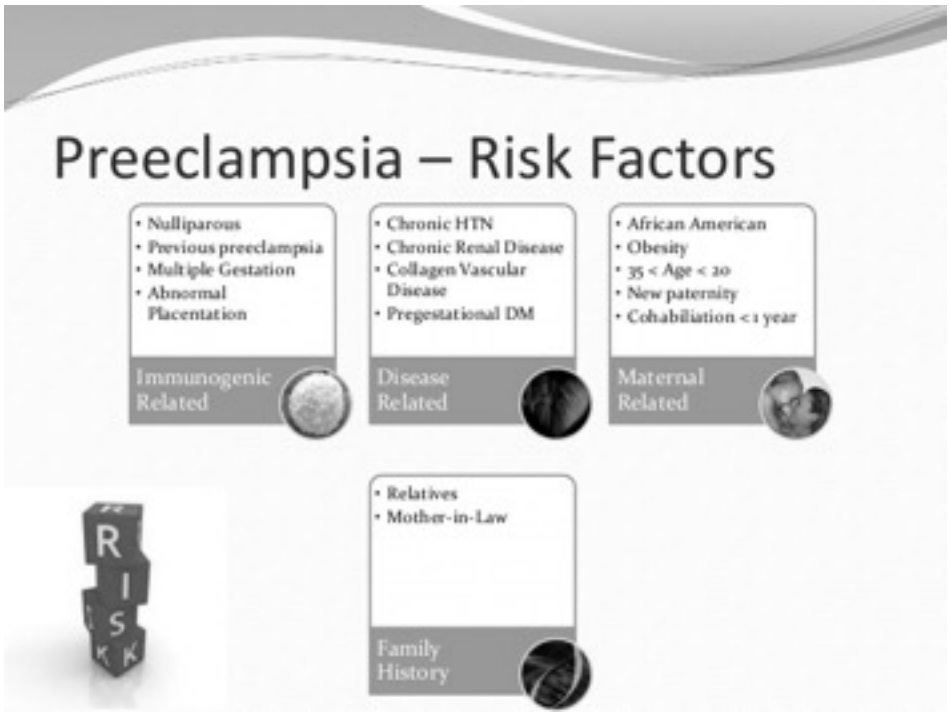
THE USE OF LOBETALOL IS ONLY ALLOWED IF UNDER DIRECT ORDER OF AN OBSTETRICIAN AND MUS TBE DOCUMENTED AS SUCH

AN INITIAL DOSE OF 20MG IV CAN BE GIVEN

MAKE SURE TO DO A URINALYSIS AS WELL AS

- HEART RATE
- RESP RATE
- CHEST EXAMINATION
- URINE OUTPUT

Criteria for *mild* preeclampsia
Systolic blood pressure ≥140 mm Hg OR diastolic blood pressure ≥90 mm Hg
AND
Proteinuria >0.3 grams in a 24-h collection
AND
>20-wk gestation
AND
No other systemic signs or symptoms
Criteria for *severe* preeclampsia
Blood pressure ≥160 mm Hg systolic or ≥110 mm Hg diastolic measured on two occasions at least 6 h apart with the patient at rest
AND
Visual disturbances or mental status disturbances
OR
Pulmonary edema or cyanosis
OR
Epigastric or right upper quadrant pain; abnormal liver function studies
OR
Thrombocytopenia
OR
Oliguria (<500 mL in 24 h)
OR
Proteinuria of ≥5 grams in a 24-h collection or ≥3+ on two random urine samples collected at least 4 h apart
Impaired fetal growth



ECLAMPSIA

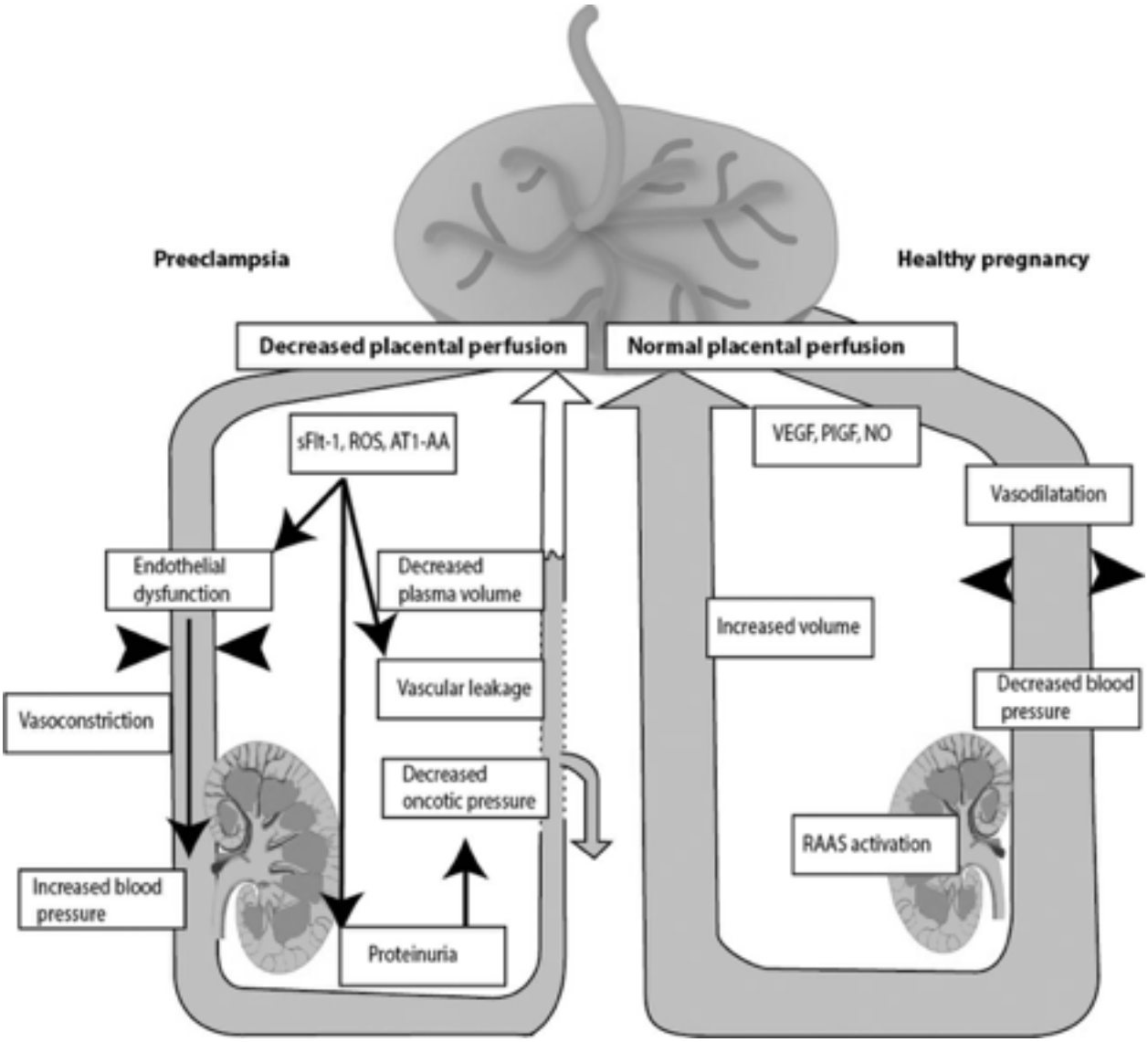
ANY GRAVID PATIENT PAST 20 WEEKS OR LESS THAN 4 WEEKS POSTPARTUM WITH NEW ONSET SEIZURES, COMA, DECREASED LEVEL OF CONSCIOUSNESS/ENCEPHALOPATHY SHOULD BE CONSIDERED AS HAVING ECLAMPSIA

MANAGEMENT

- TURN PT ON TO LEFT LATERAL DECUBITUS POSITION
- CALL FOR SENIOR HELP
- SUCTION OUT EXCESS SECRETIONS
- INSERT AN ORAL AIRWAY IF POSSIBLE
- GIVE O2 VIA MASK
- PUT 4G MAGNESIUM SULPHATE IN 200ML CRYSTALLOID SOLUTION AND RUN THIS OVER 20MIN
- FOLLOWING THE LOADING DOSE GIVE 5G MAG SULPH IMI DEEPLY INTO EACH BUTTOCK
- YOU CAN REPEAT THIS DOSE EVERY 4HRS WHILE WAITING FOR TRANSFER
- IF YOU CAN GET AN INFUSION PUMP THEN PUT 4G IN 200ML CRYSTALLOID AND RUN AT 50ML/HR INSTEAD OF THE IM DOSE INTO THE BUTTOCK
- YOU CAN LOWER BP WITH EITHER NIFEDIPINE OR METHYLDOPA
- IF THE PT IS RESTLESS OR STARTS SEIZING
    - GIVE 1 MG CLONAZEPAM (RIVOTRIL) IVI
    - TRY TO AVOID DIAZEPAM/VALIUM, BUT IF NO CONTROL WITH CLONAZEPAM THEN GIVE 5MG IVI
- ASSESS TH EFETUS ONCE THE MOTHER IS STABLE
- TAKE AN FBC.U&E,LFT AND LDH
- ASSESS IF THE PT IS IN LABOUR
    - IF IN ACTIVE ADVANCED LABOUR THEN A VAGINAL DELIVERY MAY BE CONSIDERED
    - IF YOU UNCOMFORTABLE THEN ASK FOR SENIOR HELP
    - AVOID THE USE OF SYNTOMETRINE (SYNTO)

- RATHER GIVE 10 UNITS OXYTOCIN IM

- IF THE PT IS NOT IN ACTIVE ADVANCED LABOUR THEN CONSULT URGENTLY WITH CONSULTANT AT NPH FOR TRANSFER
- MAKE A SPECIAL NOTE OF THE PLATELET COUNT IN YOUR ASSESSMENT



EMERGENCIES AFTER 20 WEEKS OF PREGNANCY

ABRUPTIO PLACENTAE

THE PREMATURE SEPARATION OF THE PLACENTA FROM THE UTERINE LINING

THE INCIDENCE IS HIGHEST BETWEEN 24-28 WEEKS

THE RISK TO THE MOTHER

- HYPOVOLAEMIC SHOCK
- UTERINE RUPTURE
- COAGULOPATHIES
- MULTIPLE ORGAN FAILURE

THE RISK TO THE FETUS

- FOETAL DISTRESS AND DEMISE

ABRUPTION CAN BE ASSOCIATED WITH MAJOR **AND MINOR** TRAUMA

RISK FACTORS ARE

- TRAUMA
- DRUG USE
    - ESPECIALLY COCAINE
- OLIGOHYDRAMNIOS
- CHORIOAMNIONITIS
- ADVANCED MATERNAL AGE
- MULTIPAROUS
- CHRONIC OR ACUTE HYPERTENSION

FIGURE 100-1. Abruptio placentae. The placenta has separated from the superior pole of the uterus.

UNDER NO CIRCUMSTANCES SHOULD YOU PERFORM A VAGINAL OR SPECULUM EXAMINATION IN ANY PATIENT WITH VAGINAL BLEEDING AFTER 20 WEEKS OF PREGNANCY

DISRUPTION OF THE PLACENTA OR UMBILICUS MAY PRECIPITATE CATASTROPHIC BLEEDING

YOU SHOULD ALWAYS CONSIDER PLACENTAL ABRUPTION IN ANY PREGNANT WOMEN WITH ACUTE PAINFUL VAGINAL BLEEDING OR WITH ACUTE ABDOMINAL/UTERINE PAIN

THE ONLY WAY TO DIAGNOSE CONCLUSIVELY IS WITH AN ULTRASOUND

IF THIS IS AVAILABLE THEN IT SHOULD BE DONE

IF IT IS UNAVAILABLE THEN SENIOR HELP SHOULD BE SOUGHT EARLIER RATHER THAN LATER

THE MO ON CALL SHOULD DISCUSS THE PATIENT WITH THE CONSULTANT AT NPH

PLEASE REMEMBER THAT ANY PREGNANCY LESS THAN 24 WEEKS IS REGARDED AS NON-VIABLE AT NPH AND THEY MAY NOT ACCEPT TRANSFER

SHOULD THIS SITUATION ARISE BUT CLINICAL SUSPICION IS HIGH THEN THE SURGICAL TEAM SHOULD ALSO BE CONSULTED

THOSE PTS WHO ARE MORE THAN 24 WEEKS PREGNANT REQUIRE URGENT TRANSFER TO NPH

WE SHOULD HOWEVER STABILISE THE PT WHILE THEY ARE AWAITING TRANSFER

MANAGEMENT

- INSERT 2 LARGE BORE IV LINES
- PT SHOULD BE MANAGED ACCORDING TO OUR HYPOVOLAEMIC SHOCK PROTOCOL IN MAIN PROTOCOLS
- TAKE ALL BASELINE BLOODS INCLUDING AN ABG AND X-MATCH
- IF THE PT IS BLEEDING HEAVILY USE EMERGENCY BLOOD AND FDP
- SENIOR HELP NEEDS TO BE SOUGHT ASAP

IT IS DIFFICULT TO GIVE STRICT GUIDELINES AS THESE PTS ARE DIFFICULT TO MANAGE EVEN IN A DEDICATED OBSTETRIC UNIT

YOUR MAIN AIM IS TO KEEP THE PT ALIVE WHILE THE LOGISTICS OF TRANSFER,TRANSPORT AND DEPARTMENTAL RESPONSIBILITY IS BEING SORTED OUT

PLACENTA PRAEVIA

PLACENTA THAT EXTENDS NEAR, PARTIALLY OVER OR COMPLETELY OVER THE CERVICAL OS

RISK FACTORS

- MULTIPLE UTERINE SURGERIES
- ADVANCED MATERNAL AGE
- TOBACCO USER
- RECREATIONAL DRUG USER

THERE IS PAINLESS BLEEDING OFTEN NEAR THE ONSET OF LABOUR

MANAGEMENT

SIMILAR TO THAT OF ABRUPTIO PLACENTA, TREAT THE PATIENT AS PER THE HYPOVOLAEMIC PROTOCOL

OUR MAIN AIM IS TO KEEP THE PT ALIVE

THESE PATIENTS REQUIRE URGENT OBSTETRIC MANAGEMENT

FIGURE 100-2. Complete placenta previa. Placenta overlies the internal os.

EMERGENCY DELIVERY

EMERGENCY DELIVERY IS A CAUSE OF ANXIETY EVEN FOR EXPERIENCED DOCTORS

EVERY EMERGENCY ROOM HAS TO BE READY TO MANAGE A WOMAN IN ACTIVE LABOR

RUPTURE OF MEMBRANES

OCCURS USUALLY SPONTANEOUSLY DURING THE COURSE OF ACTIVE LABOR

BUT CAN OCCUR PRIOR TO ONSET OF ACTIVE LABOR AS WELL

IF IT OCCURS PRIOR TO 37 WEEKS IT IS REGARDED AS PREMATURE RUPTURE

CERVICAL DILATATION

THE DIAMETER OF THE INTERNAL CERVICAL OS

10 CM INDICATES FULL DILATATION

THE CERVIX ALSO UNDERGOES THINNING, KNOWN AS EFFACEMENT

STATION INDICATES THE LEVEL OF THE FETUS ABOVE THE PELVIS

- ABOVE THE PRESENTING PART IS ABOVE THE ISCHIAL SPINES OF THE MOTHER, IT IS DESCRIBED AS NEGATIVE
- PRESENTING PART AT ISCHIAL SPINES, IS 0
- FURTHER DESCENT THEN DESCRIBED BY +1,+2,+3 (WITH +3 BEING VISIBLE AT THE INTROITUS)

FALSE LABOR

UTERINE CONTRACTIONS THAT DO NOT PRODUCE CERVICAL CHANGES

USUALLY SHORT,IRREGULAR CONTRACTIONS THAT OCCUR IN THE LOWER ABDOMEN

COMMONLY CALLED BRIXTON HICKS CONTRACTIONS

USUALLY THE PATIENTS ONLY NEED HYDRATION AND REST

TABLE 101-3 True Versus False Labor

	True Labor	False Labor
Contractions		
Rhythm	Regular	Irregular
Intervals	Gradually shorten	Unchanged
Intensity	Gradually increases	Unchanged
Discomfort		
Location	Back and abdomen	Lower abdomen
Sedation	No effect	Usually relieved
Cervical dilatation	Yes	No

STAGES OF LABOR

TABLE 101-4 Stages of Labor

Stage	Definition	Comments
First stage	From onset of regular uterine contractions to full cervical dilatation	—
Latent phase	Irregular, infrequent contractions	Preparatory phase, cervix softens and effaces
Active phase	Begins once cervix has dilated to 3–4 cm	Nulliparas: cervix dilates at 1.2 cm/h Multiparas: cervix dilates at 1.5 cm/h
Second stage	From full dilatation to delivery	Nulliparas: mean duration 54 min Multiparas: mean duration 20 min
Third stage	From delivery of infant to delivery of placenta	10 min; intervention not needed until >30 min

CLINICAL EVALUATION OF LABOR

WHEN A PT PRESENTS IN LABOR TRY AND QUICKLY GET

- MATERNAL BP
- MATERNAL HEART RATE
- MATERNAL RESPIRATORY RATE
- MATERNAL SATS
- MATERNAL TEMPERATURE
- FOETAL HEART RATE
    - UNFORTUNATELY WE ONLY HAVE A FETOSCOPE, HOPEFULLY WE WILL HAVE A CTG IN THE FUTURE
    - NORMAL HR = 120-160 BPM

HISTORY

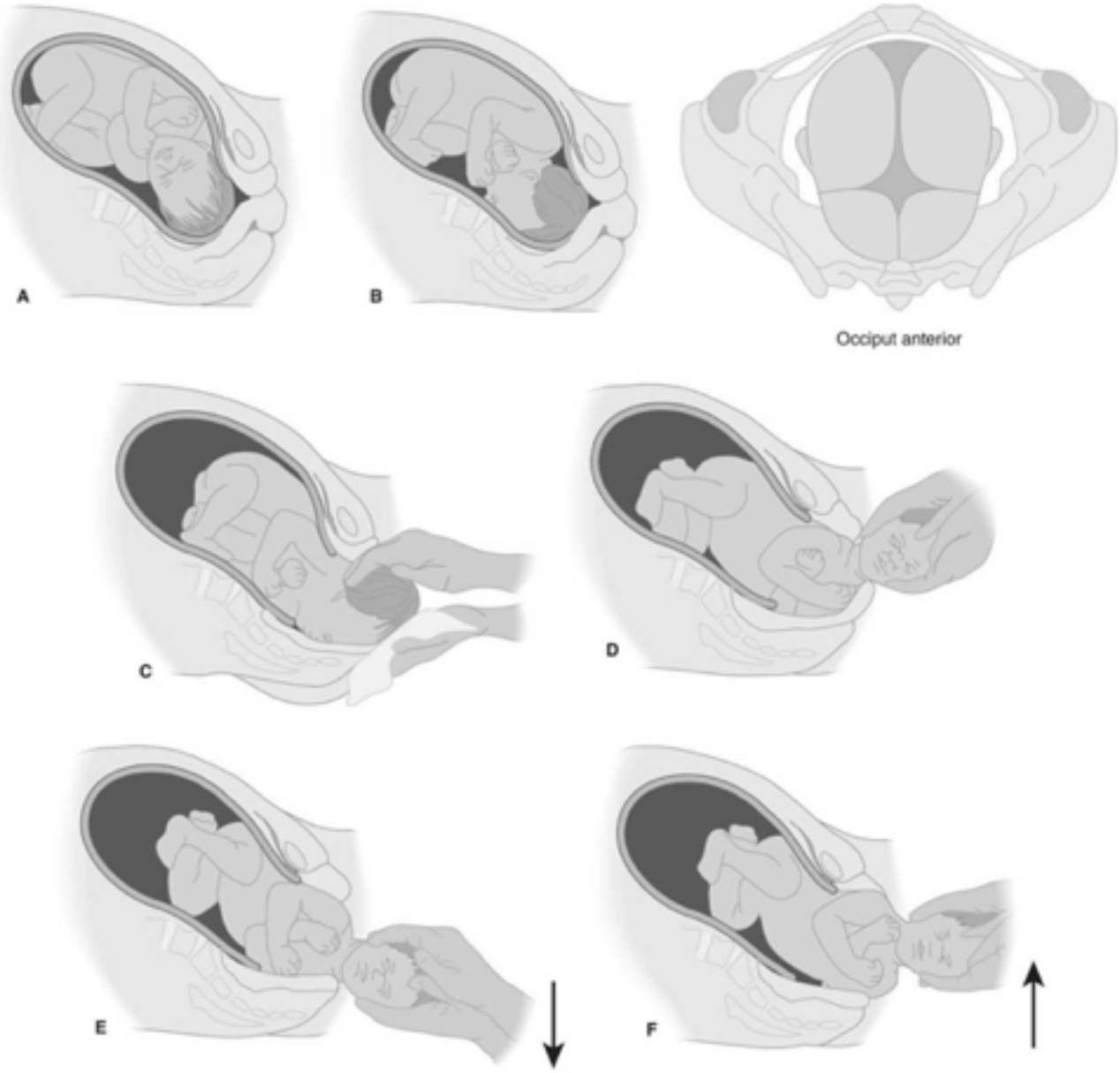
- ONSET OF CONTRACTIONS
- FREQUENCY OF CONTRACTIONS
- ABSENCE/PRESENCE OF VAGINAL BLEEDING
- ABSENCE/PRESENCE OF FOETAL MOVEMENT
- PARITY
- PREVIOUS DELIVERY COMPLICATIONS
- PRENATAL CARE
- ESTIMATED DATE OF DELIVERY

EXAMINATION

- VITALS
- FOETAL HEART RATE
- PLACE PT IN LEFT LATERAL POSITION
- FUNDAL HEIGHT
- ABDOMINAL/UTERINE TENDERNESS
- SPECULUM EXAMINATION (**IF NO VAGINAL BLEEDING**)TO SEE
    - IF MEMBRANES HAVE RUPTURED
    - CERVICAL DILATATION

- CERVICAL EFFACEMENT
- FOETAL STATION
- FOETAL PRESENTATION

PATIENTS WITH VAGINAL BLEEDING SHOULD NEVER HAVE A SPECULUM/ DIGITAL EXAMINATION FOR EVALUATION, THEY REQUIRE AN URGENT ULTRASOUND

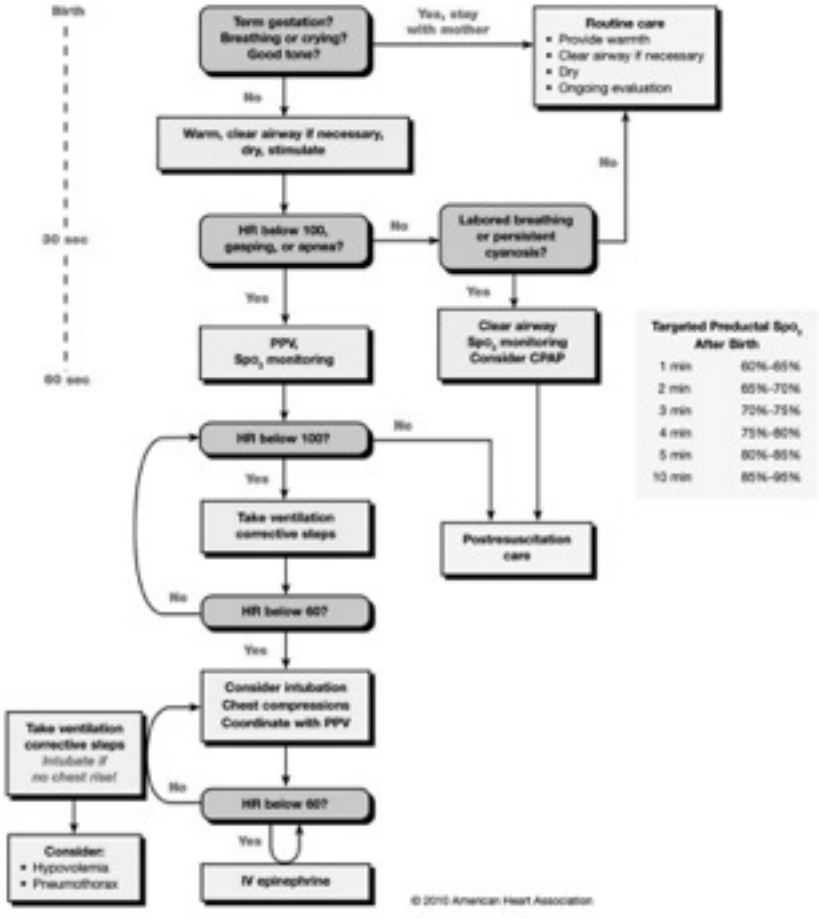


The movements of normal delivery for a vertex presentation. **A.** Engagement, flexion, and descent with vertex anterior. **B.** Internal rotation with occiput becoming anterior. **C.** Extension and delivery of the head. As the infant's head emerges from the introitus, support the perineum by placing a sterile towel along the inferior part of the perineum with one hand, and support the fetal head with the other hand. Ask the mother to breathe through contractions (rather than bear down) in order to deter rapid expulsion of the baby. Provide mild counterpressure for controlled extension of the fetal head. As the infant's head presents, use the inferior hand to control the fetal chin and keep the superior hand on the crown of the head, supporting the delivery. **D.** External rotation, bringing the thorax into the anteroposterior diameter of the pelvis. As the head delivers, palpate the infant's neck to assess for the presence of a nuchal cord. Nuchal cord is noted in approximately 25% to 35% of all term deliveries.[13] If the cord is loose, move it over the infant's head, and allow delivery to proceed as usual. If the cord is wound tightly around the neck, however, apply two close clamps in the most accessible area, and then cut the cord. **E.** Delivery of the anterior shoulder. Once the head is delivered, it will turn to one side or the other. Grasp the sides of the head with both hands, and apply **gentle** downward traction (go with gravity) until the anterior shoulder is delivered. Jerky or aggressive traction may injure the brachial plexus. If you have not checked for a nuchal cord, do so now. As the head rotates, place the hands on either side of the head, providing gentle downward traction. This maneuver allows for the delivery of the anterior shoulder. **F.** Delivery of the posterior shoulder. Use an upward movement to deliver the upward shoulder. Do not apply traction. If meconium is present or the newborn is limp or poorly responsive, stimulate the baby and be prepared to begin the steps of neonatal resuscitation with ventilation and oxygenation

	Sign	0 Points	1 Point	2 Points
A	Activity (muscle tone)	Absent	Arms and legs flexed	Active movement
P	Pulse	Absent	Below 100 beats/ min	Above 100 beats/min
G	Grimace (reflex irritability)	No response	Grimace	Sneezing, coughing, pulling away
A	Appearance (skin color)	Blue-gray, pale	Normal, except extremities	Normal over entire body
R	Respiration	Absent	Slow, irregular	Good, crying

APGAR SCORE

Newborn Resuscitation Algorithm.



John Kattwinkel et al. Pediatrics 2010;126:e1400-e1413

DO NOT CLAMP THE UMBILICAL CORD FOR AT LEAST 1-3MIN AFTER BIRTH, IT ALLOWS FOR INCREASE IN NEONATAL IRON STORES

CLAMP THE CORD AT LEAST 3CM DISTAL TO ITS INSERTION AT THE UMBILICUS AND CUT WITH A STERILE SCISSORS

PLACENTAL DELIVERY

ALLOW TTHE PLACENTA TO SEPARATE SPONTANEOUSLY, IT USUALY DELIVERS 10-30MIN AFTER DELIVERY OF THE BABY

USE GENTLE TRACTION

GENTLY MASSAGE THE ABDOMEN AT THE LEVEL OF THE FUNDUS TO PROMOTE CONTRACTION

IF UTERINE ATONY IS PRESENT OR IF THERE IS INCREASED VAGINAL BLEEDING THEN FIRST DO A MORE VIGOROUS UTERINE MASAGE FOLLOWED BY A REPEAT DOSE OF THE UTEROTONIC DRUG

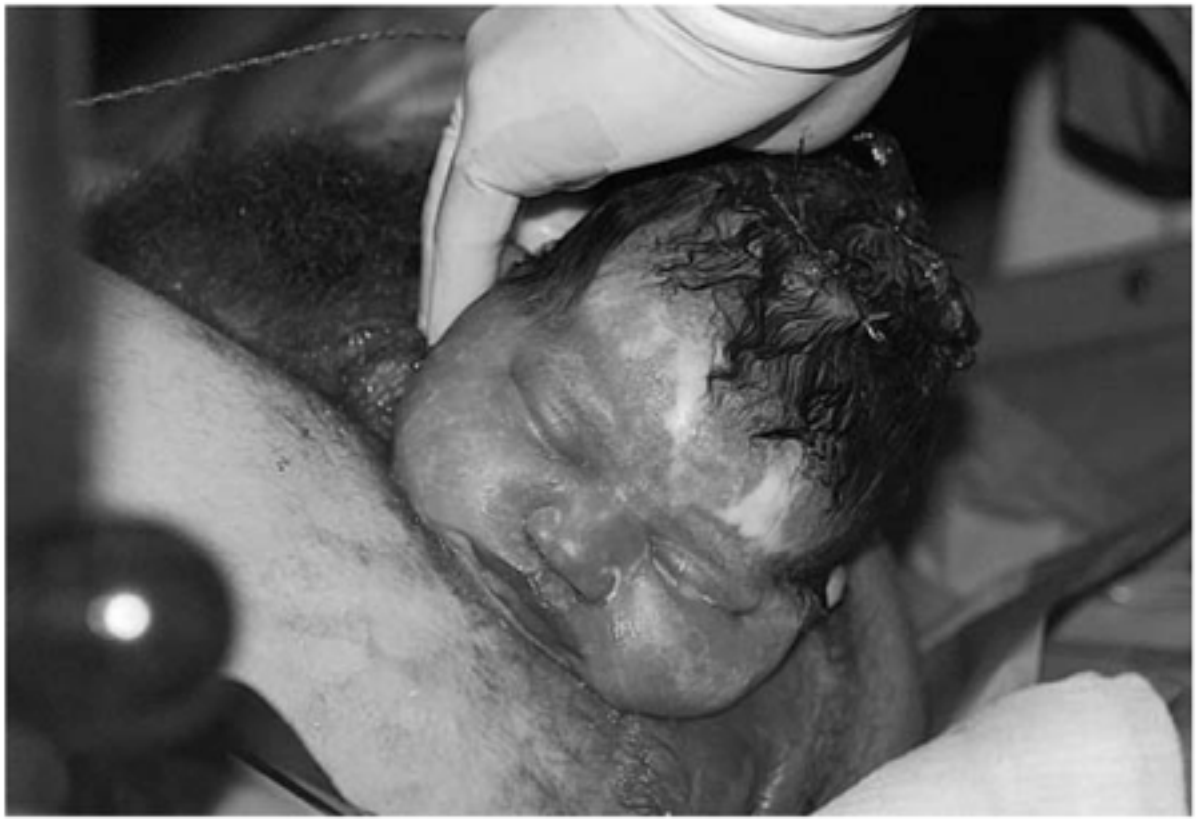
COMPLICATIONS OF LABOR

UMBILCAL CORD PROLAPSE

SHOULD BIMANUAL PALPATION REVEAL A PULSATILE, PALPABLE CORD

- ELEVATE THE PRESENTING PART
- KEEP YOUR HAND IN THE VAGINA
- URGENT CONSULT WITH NPH AS THE PT WILL REQUIRE EMERGENCY C/S
- PLACE MOTHER IN TRENDELENBURG POSITION
- DO NOT TRY TO REDUCE THE CORD
- YOU WILL HAVE TO TRAVEL WITH THE PT OR CALL FOR ADVANCED LIFE SUPPORT PARAMEDIC TO ACCOMPANY THE PT

SHOULDER DYSTOCIA



CLASSIC APPEARANCE OF SHOULDER DYSTOCIA
INFANT HEAD IMPACTED AGAINST PERINEUM
(TURTLE SIGN)

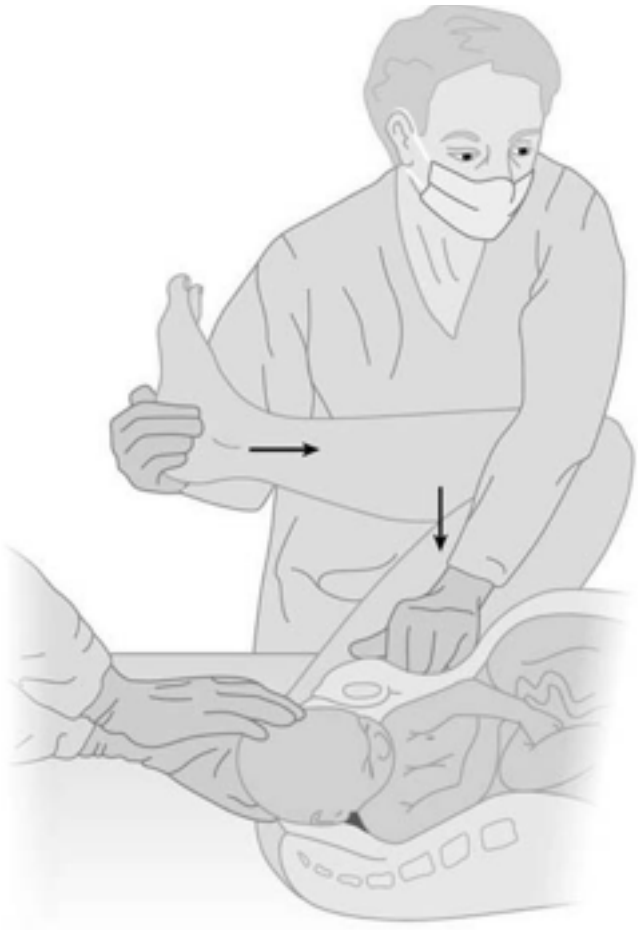
THE MAIN COMPLICATIONS OF SHOULDER DYSTOCIA ARE

- FOETAL BRACHIAL PLEXUS INJURY
- CLAVICLE FRACTURE
- FOETAL HYPOXIA
- POSTPARTUM HAEMMORHAGE
- FOURTH DEGREE PERINEAL TEARS

THERE A THREE MANOEUVRES THAT CAN BE USED

1) McROBERTS MANOEUVRE

- FLEX MOTHERS LEG SHARPLY
- KEEP LEGS SPREAD WIDE APART
- APPLY SUPRAPUBIC PRESSURE
- IF AN ASSISTANT IS AVAILABLE THEY SHOULD PLACE THEIR HANDS IN THE CPR POSITION, AND APPLY PRESSURE JUST ABOVE SYMPHYSIS
- APPLY PRESSURE FOR 1-2 MINUTES



McRoberts maneuver. Sharply flex the thighs up onto the abdomen, as shown by the *horizontal arrow*, and keep the knees spread widely. Simultaneously provide suprapubic pressure (*vertical arrow*).

2 GASKIN MANEOUVRE

- PLACE THE PATIENT ON ALL FOURS
- EXERT GENTLE DOWNWARD TRACTION ON THE INFANTS HEAD
- “GO WITH GRAVITY” TO ALLOW THE POSTERIOR SHOULDER TO DELIVER

Gaskin maneuver for shoulder dystocia.

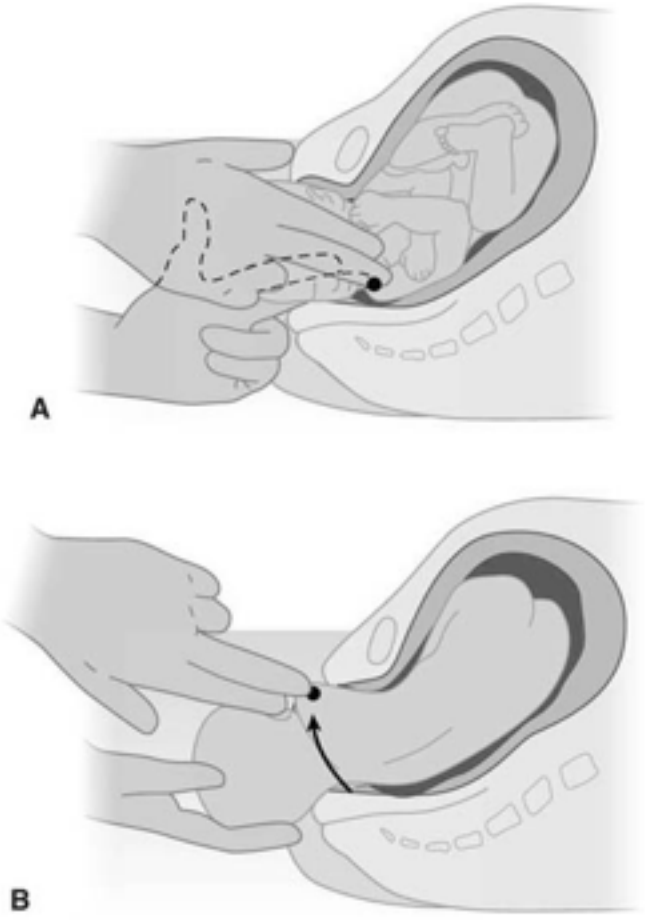
3 RUBINS OR WOODS CORKSCREW MANEOUVRE

THESE GENERALLY REQUIRE AN EPISIOTOMY, AND SHOULD ONLY BE ATTEMPTED IF OTHER METHODS HAVE FAILED

IN RUBINS YOU PUSH THE SHOULDER TOWARDS THE CHEST TO REDUCE THE DIMENSIONS OF THE SHOULDER

IT CAN BE COMBINED WITH THE CORKSCREW METHOD BUT CAN BE SUCCESSFUL ON ITS OWN

IF YOU ROTATE THE BABY, MOVE IT INTO AN OBLIQUE POSITION TO ASSIST DELIVERY



Corkscrew maneuver. **A.** Place fingertips behind anterior shoulder and in back of posterior shoulder. **B.** Then gently rotate clockwise until shoulder delivers.

BREECH PRESENTATION

AS WITH ALL COMPLICATIONS, THESE PATIENTS SHOULD BE TRANSFERRED TO NPH IF POSSIBLE

HOWEVER IF THE PATIENT IS IN ACTIVE LABOR THEN WE HAVE TO TRY OUR BEST

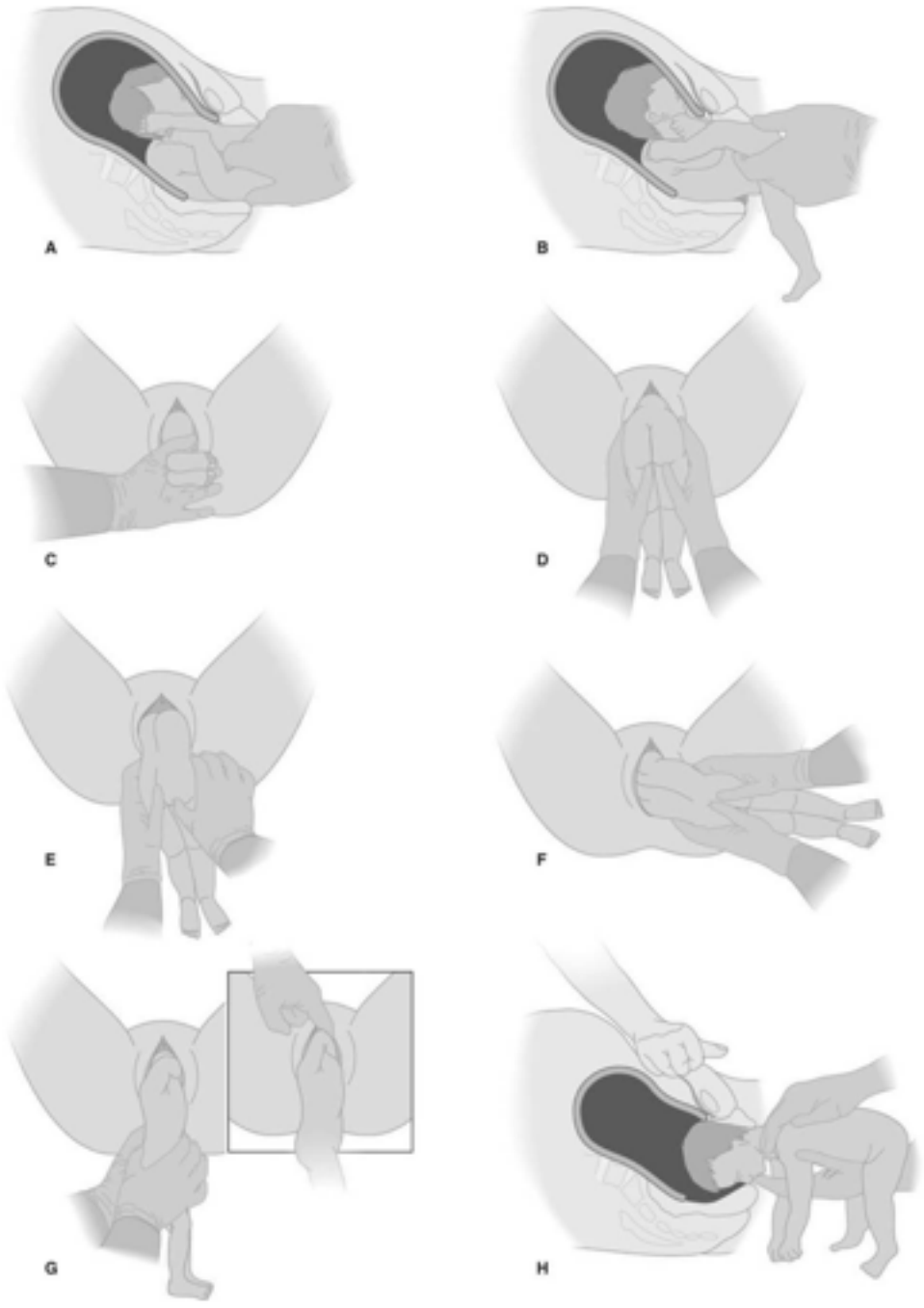


FIGURE 101-9. Breech delivery. **A.** Grasp the thigh to allow delivery of the leg. **B.** Grasp the other leg to allow its delivery. **C.** Grasp the feet at the ankles and rotate the sacrum anteriorly. **D.** The sacrum is rotated anteriorly. Maternal efforts deliver the baby to the level of the umbilicus. Wrap the trunk and legs in a towel. **E.** Maternal efforts further deliver to the level of the scapulae. Apply steady, gentle traction until scapulae come into view. **F.** Once the axilla is visible, the shoulder can be delivered. Rotate counterclockwise to deliver the anterior shoulder. (It does not matter which shoulder is delivered first.) **G.** Delivery of the anterior arm. When the scapulae appear, gently rotate the baby until one humerus can be followed down, rotated across the chest, and swept out. Then turn the baby clockwise to allow delivery of the other arm. **H.** Deliver the vertex of the skull by placing fingers at the maxillary process, and keep body parallel to the horizontal. Do not pull. Do not lift above the parallel to avoid neck hyperextension. Apply suprapubic pressure to aid delivery of the head.

TRAUMA IN PREGNANCY

ALL PREGNANCY RELATED TRAUMA IS MANAGED AT MADADENI HOSPITAL REGARDLESS OF GESTATIONAL AGE, THIS IS DONE IN CONSULTATION WITH OBGYN AT NPH, BUT PTS ARE NOT TRANSFERRED THERE

THE SEVERITY OF MATERNAL INJURY DOES NOT CORRESPOND TO THE AMOUNT OF FOETAL DISTRESS

EVEN MINOR TRAUMA MAY CAUSE SIGNIFICANT FOETAL INJURY

WITH TRAUMA THERE IS AN INCREASED RISK OF

- PRETERM LABOR
- PLACENTAL ABRUPTION
- FETOMATERNAL HAEMMORHAGE
- PREGNANCY LOSS

A PREGNANT PT MAY LOSE UP TO 35% OF HER BLOOD VOLUME BEFORE SHOWING SIGNS OF SHOCK

IT IS PERTINENT TO START ALL PREGNANT PATIENTS ON IV FLUIDS UNLESS THEY HAVE MARKED HYPERTENSION

LESS THAN TEN WEEKS GESTATION, THE FOETUS IS PROTECTED BY THE BONY PELVIS AND MATERNAL INJURY IS MORE LIKELY THAN FOETAL

AS PREGNANCY PROGRESSES

- FOETAL INJURY BECOMES MORE LIKELY
- BLADDER INJURY RATES INCREASE
- PERITONITIS BECOMES HARDER TO ELICIT
- THE LIKELIHOOD OF RETROPERITONEAL HAEMORRHAGE INCREASES
- MATERNAL HYPOXIA IS MORE COMMON AFTER TRAUMA
    - THE RAISED DIAPHRAGM CANNOT COMPENSATE FOR RESPIRATORY COMPROMISE
    - REMEMBER IC DRAINS HAVE TO BE INSERTED HIGHER THAN NORMAL IF NEEDED
- GASTRIC EMPTYING IS DELAYED RESULTING IN HIGHER RATES OF ASPIRATION

YOUR FIRST STEP IS TO DETERMINE GESTATIONAL AGE BEFORE MOVING ON TO OTHER PARTS OF YOUR EXAMINATION

PALPATION OF THE UTERUS ALSO ASSISTS IN YOUR DIFFERENTIAL DIAGNOSIS

FOETAL INJURY

SHOULD BE SUSPECTED WHEN

- GESTATIONAL AGE > 16 WEEKS
- MORE PREVALENT IN LATER GESTATION
- MATERNAL PELVIC FRACTURES
- BLUNT TRAUMA TO ABDOMEN
- PENETRATING INJURIES

UTERINE RUPTURE

MORE LIKELY IN LATER PREGNANCY FOLLOWING DIRECT, FORCEFUL INJURY TO ABDOMEN

SHOULD BE SUSPECTED WHEN

- YOU ARE UNABLE TO PALPATE THE NORMAL CONTOUR OF THE UTERUS
- EASILY PALPABLE FOETAL PARTS

NORMALLY DIAGNOSED ON ULTRASOUND

PLACENTAL ABRUPTION

MOST COMMON CAUSE OF FOETAL DEATH

SUSPECT WHEN

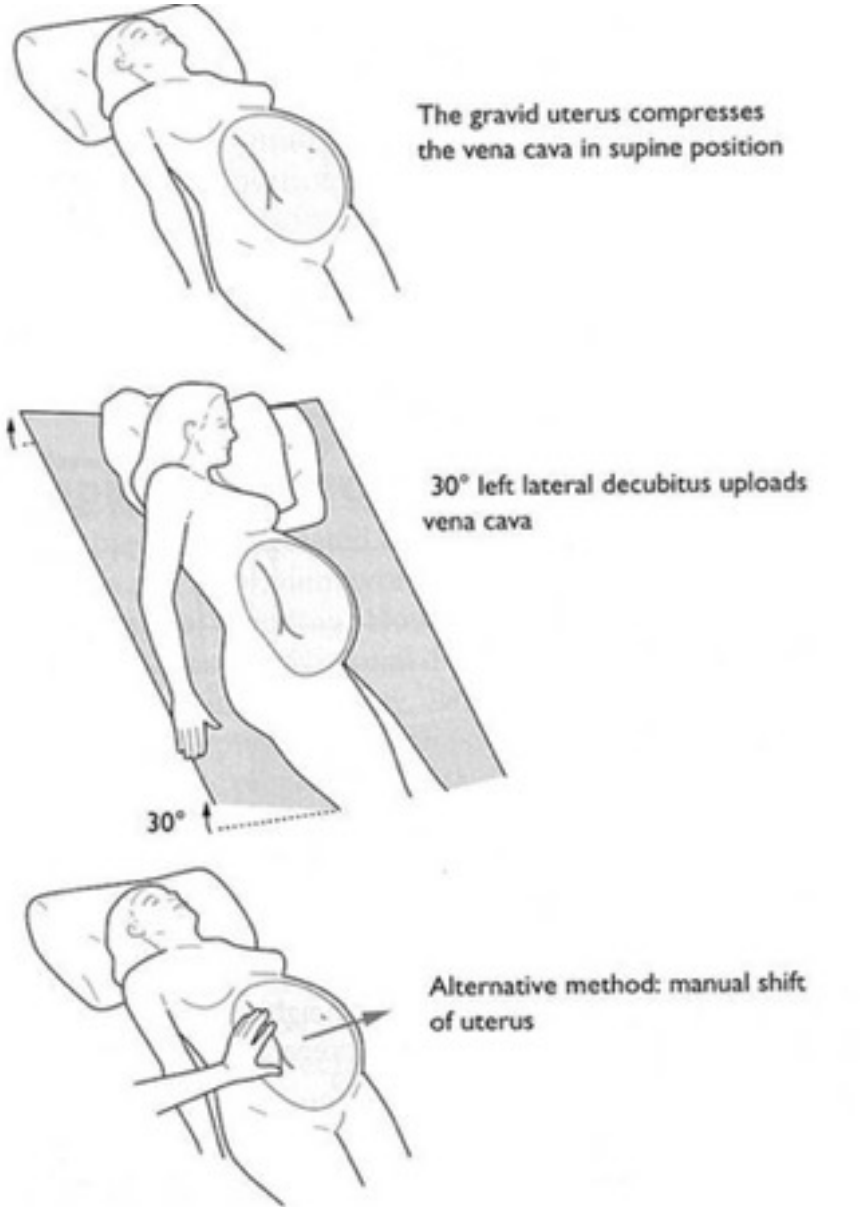
- ABDOMINAL TRAUMA, EVEN MINOR
- DECELERATION INJURIES, EG MVA
- UTERINE IRRITABILITY
    - MORE THAN 3 CONTRACTIONS AN HOUR
    - PT MAY EVEN HAVE TETANIC TYPE CONTRACTIONS
- PV BLEEDING

INTRODUCTION OF FOETAL BLOOD INTO THE MATERNAL CIRCULATION MAY LEAD TO DIC, AND MORE RARELY THERE MAY BE AMNIOTIC EMBOLUS

IF WE KNOW THE RESUS STATUS OF THE MOTHER

- RH POSITIVE , NO ACTION
- RH NEGATIVE, WE ASSUME THE FOETUS IS RH POSITIVE AND MOTHER WILL REQUIRE RH IMMUNOGLOBULIN

ALWAYS NURSE THE MOTHER IN THE LEFT LATERAL POSITION



MATERNAL MANAGEMENT IN TRAUMA

WE FOLLOW OUR USUAL RESUSCITATIVE STEPS (MATERNAL RESUS IS COVERED IN THE NEXT SECTION)

TRY AND OBTAIN AN ULTRASOUND ASAP, IF NOT POSSIBLE THEN USE CLINICAL JUDGEMENT

IF YOU ARE UNSURE IT IS BETTER TO INVOLVE SENIORS EARLIER RATHER THAN LATER

X-RAYS

DO NOT BE SCARED TO SEND THE MOTHER FOR X-RAYS, THE GREATEST RISK IS IN THE FIRST 8 WEEKS AFTER CONCEPTION

TERATOGENESIS OCCURS AFTER DELIVERY OF UP TO 5 RADS OF RADIATION

A FULL TRAUMA SERIES DELIVERS APPROXIMATELY 1-1.5 RAD

CT CAN POTENTIALLY DELIVER UP TO 2.5-3.5 RAD AND SHOULD BE DONE ONLY UNDER CONSULTANT DIRECTION

PELVIC EXAMINATION

IDEALLY A PELVIC EXAMINATION SHOULD NOT BE DONE UNTIL AN ULTRASOUND CAN EXCLUDE PLACENTA PRAEVIA, IF AN ULTRASOUND CANNOT BE OBTAINED, RATHER CONSULT WITH OBGYN CONSULTANT, OR SURGICAL MO BEFORE ANY PELVIC EXAMINATION,

A PELVIC EXAMINATION IS MAINLY TO IDENTIFY INJURY TO THE LOWER GENITAL TRACT

IF IT IS DONE THEN AVOID FORCEFUL MOVEMENTS AND VIGOROUS BIMANUAL PALPATION

LAB TESTS

ALL BASELINE BLOODS INCLUDING ABG, CLOTTING PROFILE, RHESUS STATUS

FOETAL DIAGNOSIS IN TRAUMA

GESTATIONAL AGE OF LESS THAN 24 WEEKS IN OUR SETTING IS REGARDED AS NON-VIABLE, AND AT THIS AGE THE MOTHER IS TREATED AS THOUGH SHE IS NOT PREGNANT

ABOVE 24 WEEKS, TRY AND GET A FOETAL HEART RATE, AND AN URGENT ULTRASOUND IF POSSIBLE

THIS SHOULD BE DONE EVEN IF THE TRAUMA SEEMS MINOR

UTERINE IRRITABILITY (MORE THAN 3 CONTRACTIONS AN HOUR) SHOULD ALERT YOU TO THE POSSIBILITY OF PLACENTAL ABRUPTION

IF THE FOETAL HEART RATE CANNOT BE FOUND (IF USING A FETOSCOPE, THIS SHOULD BE CONFIRMED BY AT LEAST ONE SENIOR COLLEAGUE) THEN THE REMAINDER OF RESUS EFFORTS SHOULD FOCUS SOLELY ON THE MOTHER

MATERNAL RESUSCITATION IS THE BEST FOETAL RESUSCITATION

RESUSCITATION IN PREGNANCY

LUCKILY THIS IS A RELATIVELY RARE PHENOMENON

System	Parameters	Comment
Cardiovascular	Cardiac output	Increases 30%–50%
	Peripheral resistance	Decreases 20%
	Blood pressure	Decreases 10–15 mm Hg systolic in first half of pregnancy; then back to baseline
	Blood volume	100 cc/kg or 6–7 L
	Central venous pressure	May be increased up to 10 mm Hg
	Central venous oxygen saturation	Increases as high as 80%[1]
	Plasma volume	Increases 30%–50%
Hematologic	Fibrinogen, factors V, VII, VIII, X, von Willebrand factor	Increase, with heightened risk for venous thromboembolism in second half of pregnancy
Respiratory and pulmonary	Upper airway edema, hyperemia, and friability	Estrogen and volume effects; can result in difficult airway
	Diaphragm elevation	Higher thoracostomy tube insertion site during pregnancy
	Hemoglobin F has greater affinity for oxygen than maternal hemoglobin	Fetal oxygen maintained at expense of maternal oxygenation; maintain maternal oxygen saturation >95%
	Respiratory rate	No change
	Tidal volume, minute ventilation	Increase
Renal and urinary	Progesterone dilates renal collecting system; ureteral peristalsis decreases	Renal US may show mild hydronephrosis; increased risk for ascending infection
GI	Alkaline phosphatase rises from placental production; bile is more lithogenic	Increased risk of cholecystitis/cholelithiasis
	Decreased lower esophageal tone; decreased gastric emptying	Increased likelihood of aspiration of gastric contents
Uteroplacental unit	25% of blood flow directed to uteroplacental unit; no autoregulation of blood flow; enlarging uterus can compress vena cava and vessels below the diaphragm; supine hypotension syndrome can occur after 30 min of supine position	Place patient in left lateral tilt position during third trimester; replace volume adequately to account for increased blood and plasma volume in pregnancy; avoid femoral and lower extremity site for blood and volume delivery in second half of pregnancy

PHYSIOLOGICAL CHANGES AFFECTING RESUSCITATION

AS DESCRIBED EARLIER, ALWAYS NURSE THE MOTHER IN THE LEFT LATERAL POSITION

AVOID INSERTING IV LINES AT THE FEMORAL, SAPHENOUS OR FOOT VEINS

TACHYPNEA IS A BAD SIGN AND SHOULD NOT BE DISMISSED AS A NORMAL PART OF PREGNANCY, TRY AND MAINTAIN MATERNAL SATS ABOVE 95%

MAINTAIN IV FLUID INFUSIONS AT LEAST 50% ABOVE THAT OF NON-PREGNANT PATIENTS

IN A PYREXIAL PREGNANT PATIENT, WE SHOULD ASSUME THAT THERE IS SOME DEGREE OF SEPTIC SHOCK AND TREAT ACCORDINGLY, THE TWO MOST COMMON SITES OF INFECTION ARE FROM PYELONEPHRITIS AND PNEUMONIA

ALWAYS OBTAIN A U-DIPSTIX AND CXR

EVEN IF THE PATIENT APPEARS RELATIVELY STABLE, THEY STILL REQUIRE HOSPITALISATION, BELOW 24WEEKS AT MADADENI ABOVE 24WEEKS AT NPH AFTER CONSULTATION

AIRWAY MANAGEMENT

AS A RULE PREGNANT PATIENTS ARE REGARDED AS A DIFFICULT AIRWAY DUE TO OEDEMA, LANDMARK DISTORTION ETC.

THEY ALSO TEND TO DESATURATE VERY QUICKLY

THEY ALSO BLEED MORE EASILY DURING INTUBATION

THESE PATIENTS SHOULD ALWAYS BE REGARDED AS HAVING A FULL STOMACH AND ARE AT A HIGH RISK OF ASPIRATION

IDEALLY THE MOST EXPERIENCED DOCTOR AVAILABLE SHOULD MANAGE THE AIRWAY, THIS MAY MEAN CALLING FOR THE ANAESTHETIST OR SURGICAL MO AFTER HOURS

WE FOLLOW THE SAME PRINCIPLES AS FOR RAPID SEQUENCE INTUBATION OUTLINED EARLIER EXCEPT

- ANTICIPATE USING A SMALLER ET TUBE THAN NORMAL
- USE A SHORTER LARYNGOSCOPE HANDLE
- PRE-OXYGENATE TO AT LEAST 95%
- A LARYNGEAL MASK AIRWAY IS AN ACCEPTABLE ALTERNATIVE IF INTUBATION HAS FAILED

CPR

THE SAME PRINCIPLES FOR CPR AS MENTIONED BEFORE APPLY TO PREGNANT PATIENTS EXCEPT

- CHEST COMPRESSIONS SHOULD BE DONE TOWARDS THE UPPER-MID STERNUM IN LATER PREGNANCY AS THE THORACIC ORGANS ARE DISPLACED SUPERIORLY
- PLACE THE PT IN THE LEFT LATERAL POSITION OR MANUALLY DISPLACE THE UTERUS
- DO NOT INSERT PERIPHERAL LINES IN THE SAPHENOUS OR FEET
- DO NOT INSERT FEMORAL CVP
- IF THE FUNDUS IS BELOW THE UMBILICUS THERE IS NO MODIFICATION TO CPR TECHNIQUE
- DEFIBRILLATIONS SHOULD BE GIVEN AT NORMAL DOSES IF REQUIRED
- DO NOT USE AMIODARONE FOR VF/PULSELESS VT BUT SUBSTITUTE LIGNOCAINE IV (1-1.5 MG/KG, FOLLOW UP DOSE 0.5-0.75 MG/KG)
- GET SENIOR HELP OR ADVICE ASAP
    - THERE MAY BE A NEED FOR PERI-MORTEM CAESARIAN SECTION BUT THIS DECISION IS MADE BY SENIOR STAFF ONLY

End