CASE 2

Short case number: 3_4_2
Category: Endocrine & Reproductive Systems
Discipline: O&G
Setting: General Practice
Topic: Antenatal care

Case

Phillipa Wong presents for pregnancy care. She had her last period 8 weeks ago and a chemist pregnancy test was positive. She and her husband have been trying to conceive for 4 months. She complains of nausea and vomiting.

Questions

1. Describe the biochemistry of the pregnancy test and how it is used in diagnosing an abnormal pregnancy. Should Phillipa's home pregnancy test be repeated?
2. What are the signs and symptoms of early pregnancy? List the recommendations for nausea and vomiting in pregnancy.
3. What history and examination would you undertake at a first visit with a pregnant woman.
4. Which routine investigations are ordered as part of antenatal care?
5. Describe the common models of antenatal care in Australia.
6. Discuss the role of 1st, 2nd and 3rd trimester ultrasound in pregnancy

Suggested reading:

- Abbott, J., Bowyer, L., & Finn, M. (2014). *Obstetrics and Gynaecology: an evidence-based guide (2nd ed).* Australia, Elsevier. Chapter 11 & 14

ANSWERS

1. Urine pregnancy test measures the amount of beta HCG (specific to pregnancy - the alpha form comes from other gonadotrophins like LH) excreted in the urine to a sensitivity of 50Iu/L – i.e. before the first missed period (about day 10 - 12 from conception – day 24-26 of cycle if perfect 28 day cycle). Quantitative beta HCG gives a concentration of HCG. The level doubles every 48 hours. Falling serial levels indicate a failed pregnancy. Pregnancy should be confirmed by repeat testing.

2. **Signs and Symptoms of Early Pregnancy**

Amenorrhoea
Nausea
Breast tenderness and enlargement
Increased urinary frequency
Pigmentation of areola
Fatigue

Recommendations for management hyperemesis gravidarum.
Presentation mild to severe
1st trimester ultrasound to exclude multiple gestation and molar pregnancy.
Reassurance that hyperemesis will not harm foetus if hydration maintained.
Increased rest, leave from work as needed.
Increased fluid intake
Ginger tea and tablets may help.
Vitamin B6 75mg daily
Anti-emetic medication increased as needed, dopamine antagonists
Ondansetron wafers
If dehydrated or urinary ketones present admit for intravenous therapy and K replacement.
Thiamine to prevent Wernicke's encephalopathy.

3. **History and Examination**

Gynae history - Menstrual, previous contraception, last cervical screening test, LMP
Obstetric - Number of pregnancies, outcomes, gestation of each pregnancy, type of delivery, complications and breastfeeding history
Medical - Particularly renal, diabetes or hypertension
Surgical - Particularly gynae surgery, appendicectomy.
Family - Congenital abnormalities (anything in the family at all), twinning, history of own birth.
Medication - OTC, prescribed, herbal including anything ceased since discovery of pregnancy
Social – partner and family support. Work nature and type, housing (any), alcohol, smoking, caffeine
Ethnic - Asian – higher haemoglobinopathies, Horn of Africa – genital mutilation
Allergies Vegetarian

4. **Routine Investigations**

First visit
Blood Group: ABO
Rhesus factor, Antibody screen
FBC/ ferritin if heavy menses
Rubella
TPHA
Hep B and C
HIV

Vitamin D (if dark skinned or get little sun exposure)
Urine M/C/S
TSH if overt hypothyroidism
Dating ultrasound if indicated

11-13 weeks: Down's screen
18-20 weeks: Morphology ultrasound

26 weeks: 75 gram glucose tolerance test & FBC, Blood group and antibody screen
34weeks: FBC, Blood group and antibody screen & Vaginal swab for group B streptococcus screen

5. Models of Antenatal Care in Australia

Antenatal Care Schedule-Routine Low Risk CPG

The Royal Women's Hospital utilises a routine antenatal care schedule of 10 visits summarised in the table below.

This schedule is a basic map to guide episodes of care for well women, and should be used flexibly in accordance with the needs of each woman. A reduced number of content-specific, longer consultations as compared with the traditional 14 visits for well women is considered best practice, in terms of perinatal outcomes, client satisfaction and cost effectiveness.[1]

However, with reference to flexibility and consumer-centred care, it may be that a well woman desires an increased number of visits and should be given this opportunity.

Routine low risk antenatal care schedule

WHEN Weeks	**WHAT** Assessments, Investigations, Discussions	**WHO** Lead carer
PBC 10+	Midwife Assessment & Obstetric Consultation Offer dating* U/S, discuss/give MSST form (for 15+/40), Social issues screening, Smoking assessment, Maternity service assessment, discuss options of care Routine: Bld group & antibodies, FBE, Ferritin, Hep B, TPHA, Rubella, HIV with pre-test counselling, MSU & Dipstix, Request 18-20/40 ultrasound As Indicated: Haemaglobinopathy/Thalassaemia screen, Hep C, Vit D, Cervical Screening Test Available: Genetic Counsellor, Social worker All results are reviewed in the following weeks' PBC	Consultant/ Registrar & Midwife

	*Dating U/S not available on the day at Community Clinics	
16	Standard Antenatal Check, MSST if requested, review & discuss results	Midwife/GP
20	Standard Antenatal Check, review & discuss 18-20/40 ultrasound Organise GCT, FBE, red cell antibodies for 26/40	Midwife/GP
26 (plus 28 if having Anti-D)	Standard Antenatal Check & Midwife Pre-Admission Clinic (PAC) Routine: GCT, FBE, red cell antibodies for all women If indicated: GTT, offer extra visit if Rh(D) neg for 28/40 Anti-D at Royal Women's Hospital or hospital Community Clinic	Midwife
30	Standard Antenatal Check	Midwife/GP
33 (change to 34 if having Anti-D)	Standard Antenatal Check If Rh(D) negative and having Anti-D, change to 34/40 at Royal Women's Hospital or hospital Community Clinic	Midwife/GP
36	Consultant Review Routine: GBS If indicated: FBE	Consultant/ Registrar
38	Standard Antenatal Check	Midwife/GP
40	Standard Antenatal Check Give request form (red) for CTG / AFI prior to the 41/40 appointment	Midwife/GP
41	Consultant Review CTG / AFI prior to appointment	Consultant/ Registrar

Three Centres Consensus Guidelines on Antenatal Care Project, Mercy Hospital for Women, Southern Health and Women's & Children's Health 2001, pp5-7.1. Three Centres Consensus Guidelines on Antenatal Care Project, Mercy Hospital for Women, Southern Health and Women's & Children's Health 2001, pp5-7.

Royal Women's Hospital Clinical Practice Guidelines (CPGs) are intended to provide guidance to health care professionals, based on a thorough evaluation of research evidence, on the practical assessment and management of specific clinical issues or situations. The guidelines allow some flexibility on the part of the health care professional based on the needs of the specific patient for whom they are caring.

https://www.thewomens.org.au/health-information/pregnancy-and-birth/

Midwifery led care – midwifery care for ANC and delivery
GP led (shared care) – usually GP ANC but deliver in a hospital environment (either midwifery or obstetric)
Obstetrician led care – ANC and labour provided by O&G
Multidisciplinary teams – ANC provided by multidisciplinary team – labour in hospital under O&G care.
In addition offer influenza vaccine at initial visit.

6. Role of Ultrasound in pregnancy

1st trimester
Dating scan, unsure dates, contraceptive use within 3 months, uterine size not proportionate to dates
Determining viable pregnancy versus miscarriage, incomplete miscarriage, molar and ectopic pregnancy

First trimester Screening – Nuchal fold thickness at 11 to 13 weeks. (screening test for trisomy 21 if combined with serum PAPP-A (pregnancy associated plasma protein-A) and bHCG)

2nd trimester
Foetal anomaly scan
Placental localization

Further scans indicated for specific issues Us
APH
Fundal height is small or large for dates
Complications of pregnancy – diabetes, renal disease,-pre-eclampsia to check foetal welfare (growth parameters , foetal biometry-breathing ,tone and Doppler of umbilical artery checking for blood flow)
Serial monitoring of foetal growth in twins and pregnancies at risk.
Unstable lie at term
Abnormal foetal presentation
Placental location if previous scans show low lying placenta