OBS/ GYN Revision Series 2015

CATS

A.G & M. A. O

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CONTINUOUS ASSESSMENT TESTS

TERM 1 CAT 1 TAKE HOME CAT (WITH MARKING SCHEME) 30TH JAN, 2015

Total Marks Out of 40

Mrs Muindi is a 34 year old. Para 1 + 1 Gravida 3. She is not sure of the date of her last menses. Today is her first antenatal visit in your hospital. On examination she is in good general condition, the fundal height corresponds to 28 weeks gestation fetal heart rate is 146 beats/ min. you have requested for antenatal profile and the results are as follows:- Hb- 12g/dl. VDRL- Negative, HIV- Negative. Blood group – B negative

1. **Make a comprehensive diagnosis (5marks)**

❖ *Rhesus Negative (1), 34 year old (1) Para 1 + 1 G3 (1) not sure of dates (1) with fundal height corresponding to 28 weeks gestation (1)*

2. **Outline in point form the different aspects of history, examination and lab tests you would use to estimate the gestational age in this case (13 marks)**

φ *Menstrual History – were her menses regular or not (1)*
φ *Family planning History*
  ✓ *Which method she was on prior to pregnancy (1)*
  ✓ *When the method was last administered (1)*
  ✓ *If COCs was she taking them consistently (1)*
φ *Timed/ Known fruitful coitus (1)*
φ *When she had early signs and symptoms of pregnancy such as Nausea, vomiting (1)*
φ *Did she do a pregnancy test early in pregnancy (1)*
φ *Did she have any early obstetric U/S in the first trimester or before 20 weeks (1)*
φ *Had she started antenatal clinic elsewhere, and if so, what is the fundal height documented in her ANC booklet at the first visit (1), when did they first document fetal heart tones by fetoscope/ Doppler? (1)*
φ *When was quickening (1)*
φ *Current fundal height on examination (1)*

3. **What other lab test would you request for, justify (2 marks)**

- *Indirect Coombs Test (1): To check if she is sensitized in view of her Rhesus Negative status and previous delivery and abortion without information on whether she received anti- D after the previous delivery and abortion, and an unknown blood group of her first baby (1)*

4. **The test done in 3 above turns out negative, outline the management of Mrs Muindi relevant to her Rhesus negative status and test result of 3 above, until the first 3 days after delivery (20 marks)**

❖ *Take comprehensive history*
  → *Estimate gestational age from history (1)*
  → *Has she had antepartum haemorrhage in this pregnancy (1), and if she did, was anti- D administered? (1)*
  → *If she had started ANC elsewhere, was antenatal anti- D administered already? (1)*
  → *Previous Obs/ Gyn: When was her other delivery (1) what was the mode of delivery (1), and what was the outcome of her previous delivery (1), When did she have the abortion (1), was anti- D administered after both the delivery and the abortion (1)*

→ *PMH: Does she suffer from any chronic medical illness such as diabetes, hypertension etc., has she had surgery (1)*

- *Examination*
  - *General examination*
  - *Leopold manoeuvres*
  - *Examination of other systems (Respiratory, CVS) (1)*
- *Obstetric U/S- estimate GA, Foetal well- being, placental location (1)*
- *Administration of anti- D at 28 weeks gestation (1)*
- *Administration of anti- D if there is any event predisposing her to feto- maternal haemorrhage such as antepartum haemorrhage, external cephalic version (1)*
- *Delivers by appropriate route at term if no spontaneous labour at term, or administration of anti- D at term if no spontaneous labour and then allowing her to wait labour until 41 weeks 3 days before intervention (1)*
- *Harvesting cord blood for Haemoglobin (1), Bilirubin (1), Blood group (1) and Direct Coomb's test (1)*
- *Administration of Anti- D to Mrs Muindi within 72 hours of delivery if baby is Rhesus factor positive (1)*

TERM 1 CAT 2 (WITH MARKING SCHEME) 4TH FEB, 2015

Total Marks Out of 50

Use the scenario provided to answer the questions that follow.

Miss Mutua is a 29 year old Para 0 + 0 who has been on Highly Active Antiretroviral Therapy (HAART) for the last 5 years. She has been referred to the KNH gynaecology outpatient clinic from a peripheral clinic due to a Pap smear report of HSIL (High Grade Squamous Intraepithelial lesion)

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1. What additional history would you take from Miss Mutua (16 marks)

φ *Early symptoms of cervical cancer?*
- ✓ *Watery PV discharge (1)*
- ✓ *Post coital bleeding (1)*

φ *Cervical cancer screening history*
- ▪ *When the Pap smear reporting HSIL was done (1)*
- ▪ *Previous pap smears done and their reports (1)*
- ▪ *Previous treatments given for abnormal pap smears if any (1)*

φ *HIV*
- o *When the diagnosis of HIV was made (1)*
- o *What ARV regimen she is on (1)*
- o *Adherence to HAART (1)*
- o *Her latest CD4 count (1)*

φ *Behavioural, medical and demographic risk factors*
- • *Early coitarche (1)*
- • *Multiple sexual partners (1)*
- • *Sexual partner with multiple sexual partners or with a partner who has/ had cervical cancer (1)*
- • *Tobacco smoking*
- • *Low socioeconomic status (1)*
- • *Cervical high risk human papilloma virus infection (1)*

φ *Protective factors – HPV vaccination (1)*

2. What is the association between HIV, HAART and premalignant and malignant lesions of the cervix (5 marks)

⇒ *The incidence of cervical intraepithelial lesions is higher at HIV infected women (1)*

⇒ *Recurrence of CIN is more frequent in HIV infected women with CIN than in the general population (1)*

⇒ *The risk of recurrence of CIN in HIV infected women correlates inversely with the degree of immunosuppression (1)*

⇒ *HAART treatment is associated with beneficial effects in HIV infected patients regarding CD4 count and HIV RNA load; improvements in these measures are also associated with a lower risk of CIN and cervical cancer (1)*

⇒ *Cervical carcinoma in HIV infected women tends to be more advanced at diagnosis (1)*

3. What further test will you do on Miss Mutua to rule out cervical cancer? (2 marks)

✓ *Colposcopy/ biopsy (1) for Histology (1)*

4. **Further testing confirms that Miss Mutua has CIN 3. What are the management options for Miss Mutua? (4 marks)**

a) Ablative therapies- Cryotherapy (1) , laser ablation (1)
b) Excisional procedure- LEEP (loop electrosurgical excision procedure) (1), Conization (1)

Miss Mutua is treated and scheduled for follow up in the KNH Clinic. However she is lost to follow p for 5 years and reappears in outpatient with complains of heavy per vaginal bleeding for 3 months and not passing urine for 5 days.

5. **What is likely cause of her symptoms? (3 marks)**

- *Recurrence or incompletely treated CIN and progression to invasive cervical cancer (1) with invasion/ compression of adjacent structures including the ureters (1), fungating/ infiltrative cervical with invasion/ erosion of blood vessels (1)*

6. **In a table format, justify the work up and tests necessary for Miss Mutua's management (20 marks)**

Work- up/ Test	***Justification***
FHG (1)	*Hb- anaemia (1), pre- op (EUA) WBC – R/o sepsis (1), Pre- op*
U/E/Cr (1)	*Established Renal function status due to suspected obstructive uropathy (1), pre- op (1)*
GXM (1)	*For blood transfusion in case of anaemia (1), pre-op (EUA) (1)*
KUB (1)	*Rule out ureteric obstruction (1)*
EUA, staging and biopsy (1)	*For staging (1), to make a histological diagnosis (1)*
CD4 Count (1)	*Establish immune status (1)*
LFTs	*Monitoring for ARV toxicity (1), Pre- op (1)*

TERM 1 CAT 3 (WITH MARKING SCHEME) 13TH FEB, 2015

Total Marks Out of 75

Use the scenario provided to answer the questions that follow.

Miss. Wanjiru is a 21 year old Primigravida at 35 weeks gestation by date. She has been brought to hospital by her husband because she had two episodes of generalized convulsions at home 2 hours ago. Her antenatal period had been uneventful and her antenatal profiles were all within normal range: Hb 13g/dL, Blood group A positive, VDRL- Negative, Hepatitis B – Negative. At triage in labour ward, her BP is 170/112mmHg, PR 82 beats/ minute, and she has proteinuria of 4+

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1. **What is the diagnosis (4 marks)**

⇒ *Diagnosis: 21 year old (1), primigravida (1), at 35 weeks gestation by date (1), with Eclampsia (1)*

2. **What salient features would you look for on examining Miss. Wanjiru? (30 marks)**

***General Condition**: - Coma/ confusion (1), pallor (1), jaundice (1), blood pressure (1), heart rate (1), ecchymotic lesions (1), oedema (1)*

CNS: -

- ✓ *GCS/ Confusion/ Altered mental status (1)*
- ✓ *Check pupils- if bilaterally equal and reacting to light (1)*
- ✓ *Check for lateralizing signs – in case of a CVA (1)*

RS: -

- *Respiratory rate (1), is she in respiratory distress (1)*
- *If GCS reduced or post- coital, is the airway patent (1)*
- *Crepitations (1) - in case of pulmonary oedema*
- *Dullness on percussion (1)*

Per Abdominal: -

- → *Fundal height (1)*
- → *Fetal lie (1)*
- → *Presentation (1)*
- → *Engagement (1)*
- → *Any tenderness (1) - ? abruption placenta*
- → *Epigastric / RUQ tenderness (1)*
- → *Fetal heart rate (1)*

CVS: -

- *Any sounds (1)*
- *Heart murmurs (1)*

VE: -

- *Any bleeding on inspection? (1)*

- *Bishop's score – Cervical position (1), cervical length (1), effacement (1), dilation (1), station (1)*

3. What relevant investigations would you do on Miss. Wanjiru? Justify? (12 marks)

Investigation	***Justification***
Full haemogram (1)	*Check patients – R/o HELLP syndrome (1)* *Check Hb as she may require delivery by emergency C/S (1)*
LFTS – AST, GGT, ALT, and Bilirubin (1)	*R/o HELLP syndrome (1)*
U/ E/ Cs (1)	*R/o compromised renal function (1)* *Baseline for monitoring for MgSO4, toxicity (1)*
GXM (1)	*Prepare for emergency C/S as she may require one depending on Bishop's score, fetal status (1)*
Non Stress test (1)	*Assess fetal wellbeing (1)*
Obstetric U/S (1), BPP (1)/ RI (1)	*Assess fetal status to determine mode of delivery (1), estimate fetal weight (1), confirm gestation (1)*

4. Outline Miss. Wanjiru's Management. (25 marks)

- *Admit Miss. Wanjiru in the labour ward acute room (1)*
- *Do a quick assessment of the airway, breathing and circulation (1)*
- *Start her on oxygen by mask (1)*
- *Fix 2 large bore IV cannulas (1)*
- *Draw blood samples from laboratory tests (1)*
- *Control BP (1) – IV hydralazine for control of BP higher than 160/110mmHg (1), Aldomet/ Nifedipine (1)*
- *Fix an indwelling catheter for monitoring input/ output (1)*
- *If the urine output satisfactory from history/ what is emptied on catheterization, start Magnesium sulphate for convulsion prophylaxis (1)*
  - ✓ *MgSO4 – loading dose: 4g IV infusion given over 15 – 20 minutes (1)*
  - ✓ *MgSO4 maintenance dose: 1- 2g/ hour to continue up to 24 hours after delivery or the last convulsion whichever occurs last (1)*
- *Assess fetal well- being (1), NST (1), BPP/RI (1)*
- *Deliver (1): Target to deliver within 12 hours (1); Do a Bishop score (1), examine mother (1) to determine mode of delivery*
- *Institute monitoring – BP (1), and for Magnesium sulphate toxicity (1), convulsions (1), RR (1), Fetal monitoring (1)*
- *Involve other disciplines as necessary (1), Paediatrician (1), renal physician (1), ICU (1), Neurosurgeon (1)*

5. What parameters should be monitored while Miss Wanjiru is on Magnesium sulphate? (4 marks)

i. *Respiratory rate*
ii. *Input/ Output*
iii. *Deep tendon reflexes*
iv. *U/ E/ Cs*

TERM 1 CAT 4 (WITH MARKING SCHEME) 20TH FEB, 2015

Total Marks Out of 50

Miss. Koech is a 30 year old Para 0 +1 now. She presents in the Outpatient in KNH with complains of mild per vaginal bleeding and generalized abdominal pain for 2 days. She is dizzy, feverish, and has right shoulder pain. She was referred from a peripheral clinic where a Manual Vacuum Aspiration had been performed 4 days ago to manage incomplete abortion

1. **Make a comprehensive diagnosis (5 marks)**

- *30 year old (1) Para 0 +1 (1) with peritonitis and severe anemia (1) secondary to post-abortal sepsis (1)*

2. **What investigations will you request for? Justify? (20 marks)**

Investigation	***Justification***
RBS (1)	*R/ o hypoglycaemia due to sepsis (1)*
FHG (1)	*Check for raised total WBC and neutrophils for sepsis (1). Check Hb to assess need for transfusion (1), pre- op (1)*
UEC (1)	*Check function as it may have been compromised by hypoglycaemia as well as sepsis (1), Pre- op (1)*
LFTs (1)	*Pre- op (1)*
Pelvic U/S (1)	*Check for retained products of conception and broad ligament haematoma (1)*
Plain abdominal X- Ray (1)	*Check for gut perforation- air under the diaphragm (1)*
Blood Cultures (1)	*Identify the organism causing sepsis and the antibiotics most suitable for treatment (1)*
Endocervical swab for microscopy, culture and sensitivity (1)	*Identify the organism causing sepsis and the antibiotics most suitable for treatment (1)*
GXM (1)	*To obtain blood for transfusion (1)*

3. **Outline the immediate management you would initiate on Miss Koech as you await investigation results (13 marks)**

→ *Assess airway (1), breathing (1) and circulation (1)*
→ *Start on oxygen by mask (1)*
→ *Insert two large bore cannulae (1)*
→ *Start IV fluids (1), ideally crystalloids (1) as she awaits blood for transfusion*
→ *Keep her warm (1)*

→ *Fix an indwelling urinary catheter (1) and start monitoring input/ output (1)*
→ *Start broad spectrum empirical Antibiotic cover (1)*
→ *Keep her Nil per Oral (1)*
→ *Consult other teams as per need: anaesthesist, general surgeon (1)*

4. What are the other immediate and long term complications of Miss Koech's condition? (7 marks)

Immediate

- *Haemorrhage (1)*
- *Visceral perforation (1)*
- *Acute kidney injury due to haemorrhage/ sepsis (1)*
- *Pelvic abscess (1)*

Long term

I. *Infertility (1)*
II. *Chronic pelvic pain (1)*
III. *Intestinal obstruction due to adhesions (1)*

5. What is endotoxic shock? (5 marks)

φ *Endotoxic shock is a state of systemic circulatory insufficiency (1) resulting in multi organ failure (1) that results from the release of an endotoxin; lipopolysaccharide (1) from the cell wall of Gram Negative bacteria (1) which triggers a systemic inflammatory response (1)*

TERM 1 CAT 5 (WITH MARKING SCHEME) 27TH FEB, 2015 & TERM 2 CAT 3 2014

Total Marks Out of 100

During the major ward round the nurse hands you the following referral letter

Dear Doctor

I am referring Jebet/ Jane to your antenatal care clinic for further management. She is 18 weeks gestation today, and the following are some investigations that she has so far performed.

Haemoglobin level: 8g/dL

Blood group and Rhesus: O Positive

VDRL: Negative

Obstetric Ultrasound: Single live intrauterine pregnancy consistent with 18 weeks gestation. No other abnormalities notes

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1. **What further history will you obtain from the patient (2 x 10 = 20 marks)**

i. *LMP*
ii. *Parity*
iii. *Age*
iv. *Supplementation: folic acid, ferrous sulphate*
v. *If she knows her HIV status, partner's HIV Status*
vi. *Symptoms of anaemia: dizziness, easy fatigability*
vii. *History of ANC attendance*
viii. *Possible causes of anaemia: bleeding of any cause, deworming, other chronic illness*
ix. *Alcoholic, cigarette smoking and other drug and substance use*
x. *Danger signs: vaginal bleeding, abdominal pains, headache, fever, etc*
xi. *History of pica (a symptom of iron deficiency)*
xii. *Family of history of: thalassemia, sickle cell disease*
xiii. *Any other that makes sense*

2. **List four systems you will examine (2 x 4 = 8 marks)**

a) *General exam*
b) *Cardio vascular system*
c) *Respiratory system*
d) *Abdominal exam*

3. **For each systems listed above state the salient features you will look (26 marks)**

a) *General exam: (2) Ecchymoses/ Petechia, (1) Pallor (1), Jaundice (1), temperature (1), blood pressure (1), respiratory rate (1), lymphadenopathy (1), oedema (1) (10marks)*
b) *Cardiovascular system: (2) murmurs (1) (3 marks)*

c) Respiratory system: (2) crepitations, (1) bone tenderness on the sternum (1) (3 marks)
d) Abdominal: (2) fundal height, (2) fetal heart rate, (2) splenomegaly, (2) hepatomegaly (2) (10 marks)

4. State and rationalize seven additional investigations you will request for today (22 marks)

i) Complete blood count: (1) Hg, RBC count, WBC, MCV, MCH, MCHC, platelets indices (2) (3 marks)
ii) Peripheral blood film: (1) distribution of red blood cells, morphology of red blood cell (size, shape and color) (2) (3marks)
iii) Haemoglobin electrophoresis: (1) rule out sickle cell disease (2) (3marks)
iv) Stool for occult blood, (1) ova (1) and cyst(1) (3 marks)
v) Bone marrow aspirate: (1) confirm hematologic disease like haemolytic anaemia, thrombocytopenia, leukaemia, multiple myeloma etc. (2) (3marks)
vi) Urea/ electrolyte/ creatinine: (1) rule out chronic kidney disease (2) (3marks)
vii) Urinalysis: (1) proteins, (1) glucose, (1) WBC) (1) (4marks)

5. Give a comprehensive diagnosis (4 marks)

⇒ *Moderate Anaemia (2) at 18 weeks gestation (2)*

6. Describe four salient points on counselling and management of this patient before she goes home (20 marks)

a) Danger Signs(2): drainage of liquor, bleeding, headache, blurred vision, epigastric pains, fever, etc. (2) (4 marks)
b) Anaemia (1): need to investigate for definitive diagnosis (1), supplementation- diet and haematinics (1), treat cause once definitive diagnosis (1), frequent clinic visits (1), recheck haemoglobin (1) (6 marks)
c) ANC clinic visits (2): Importance, adherence (2) (4 marks)
d) Delivery plan (2): funds (1), birth partner (1), facility to deliver (1), how to get to facility (1) (6 marks)

TERM 1 CAT 6 (WITH MARKING SCHEME) 6TH MARCH, 2015 & TERM 2 CAT 2, 2014

Total Marks Out of 105

Mercy is under your management and presented to the acute Gynaecology clinic with the following presentation:

Symptoms:

Severe low abdominal pains for four days, of sudden onset

Copious foul smelling per vaginal discharge

Associated hotness of body

Signs:

Temperature 40îC

Lower bilateral abdominal tenderness

Positive Cervical Motion Tenderness

Adnexal tenderness

Mucopurulent foul smelling discharge on examining finger

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1. **What additional history would you obtain from Mercy, list any 10 (10 marks)**

I. *Age (1)*
II. *Sexual history: partners (1)*
III. *Condom use (1)*
IV. *Deep dyspareunia (1)*
V. *Sex during menses (1)*
VI. *HIV status (1)*
VII. *Urinary Symptoms (1)*
VIII. *Contraceptive history (1)*
IX. *Douching (1)*
X. *Previous history of similar symptoms (1)*
XI. *Abnormal vaginal bleeding (1)*
XII. *LMP (1)*
XIII. *GI symptoms: Nausea, Vomiting (1); any other that is correct*

2. **What is the most likely diagnosis (2 marks)**

✓ *Acute pelvic inflammatory disease*

3. List five differential diagnosis (5 marks)

i. Ectopic pregnancy (1)
ii. Acute appendicitis (1)
iii. Endometriosis (1)
iv. Torsion of ovarian cyst (1)
v. Torsion of pedunculated fibroid (1)
vi. Urinary tract infection (1)
vii. Any other that is correct (1)

4. What are the 2 most likely causative agents for the condition in our setting (4 marks)

- *Chlamydia trachomatis (2)*
- *Neisseria gonorrhoea (2)*

5. Describe the pathogenesis of the condition described (8 marks)

a) PID arises due to ascending infections from the cervical/ vagina to the upper genital tract (endometrium, fallopian tubes and associated structures) (2)
b) Organisms implicated are:
i) Sexually transmitted: Chlamydia trachomatic, Neisseria gonorrhoea (2)
ii) Endogenous organisms isolated from the Vagina/ cervix: Bacteriodes spp., peptostreptococcus, staphylococci, streptococci (2)
iii) Most cases of PID are polymicrobial (2)

6. State and rationalize 6 investigations you would order for this patient (24 marks)

- *Pregnancy test (2): Rule out pregnancy (2)*
- *Full blood count (2): WBC (2), ESR or C- reactive protein (2) – If elevated supports diagnosis*
- *Endocervical swab for culture microscopy and sensitivity (2): Isolate the causative agent (2)*
- *Pelvic ultrasound (2): Rule out tubo- ovarian mass and pelvic abscess (2)*
- *Urinalysis for culture microscopy and sensitivity (2): Rule out UTI (2)*

7. Describe your management principles (14 marks)

a) Antibiotics (2)
b) Analgesia (2)
c) Contact tracing and treatment (2)
d) Use of condoms with partner until treated (2)
e) Laparotomy if pelvic abscess (2)
f) Counselling on the sequelae (2)
g) Counselling on prevention (2)

8. State 5 sequelae of the condition described (10 marks)

a. Peritonitis (2)
b. Septicaemia (2)
c. Infertility (2)
d. Chronic pelvic pain (2)
e. Ectopic pregnancy (2)
f. Recurrent PID (2)
g. Tuboovarian Abscess

h. *Fitz- Hugh Curtis*

One week after Mercy was successfully treated for her condition, she came back to the clinic with complaints of an itchy whitish curd like discharge with associated vulval soreness and superficial dyspareunia

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9.

a) What is the most likely diagnosis this time (2 marks)

Vulvovaginal candidiasis (2)

b) State the causative agent for her new problem (2 marks)

Candida albicans

c) State seven risk factors for her new condition (14 marks)

I. *Diabetes mellitus (2)*
II. *Broad spectrum antibiotic use (2)*
III. *Increased estrogen levels (2)*
IV. *HIV Infection (2)*
V. *Contraceptive use, Hygienic habits, Douching, use of tampons, tight synthetic under wear (2)*
VI. *Corticosteroid use (2)*
VII. *Pregnancy (2)*
VIII. *Organ transplant patients (2)*
IX. *Severe malnutrition (2)*
X. *Any that is correct (2)*

d) State the investigation you will carry out and describe the salient features of the investigation that will give a definitive diagnosis for her current condition (5 marks)

Microscopy on saline wet mount or 10% potassium hydroxide (2), budding yeast (2), pseudohyphae or hyphae (2)

e) What could have caused Mercy's current condition (2 marks)

Broad spectrum antibiotic use that were given to Mercy treat her first condition

f) What should the clinician have provided to Mercy the first time she managed her to avoid this from occurring (3 marks)

Prescribed anti- fungals together with an antibiotic when treating the first condition

TERM 1 CAT 2 SUPPLEMENTARY, 19TH FEB, 2015

Total Marks Out of 60

You are provided with a scenario; use it to answer the questions that follow.

Miss Kageha is 32 years old and has been married for the past 5 years. Her menses are regular, her cycle is 27 days long, menses last for 3 to 5 days, the flow is normal and she has no dysmenorrhoea. She has presented to you in Gynaecology clinic with complains of inability to conceive for 5 years

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1. **Take relevant history from Miss. Kageha (30 marks)**

***Biodata**: Confirm age, her parity and gravida. Any history of conception or abortion before the 5 years and her LNMP.*

HPI:

Miss Kageha

i. *Number of previous pregnancies including abortions, miscarriages and ectopic pregnancies*
ii. *Any associated sepsis*
iii. *Ask her about any sexually transmitted infections she has had previously, whether she received treatment and also whether her partner received treatment*
iv. *Inquire about any post- coital bleeding*
v. *Inquire about dyspareunia during or after coitus or any other discomfort*
vi. *Any vaginal discharge present colour and smell*
vii. *Ask how frequently she has coitus in a week and whether there is use of any contraception method*
viii. *Also inquire on the days she has coitus in relation to her menstrual cycle in case it's not frequent*
ix. *Ask her on the types of contraception she has used and for how long, whether she had any side effects or adverse reactions*
x. *Inquire if she has any abdominal discomfort .e.g. a mass, or tenderness etc.*
xi. *Inquire whether she is aware of any congenital abnormalities she has in the reproductive system*
xii. *Inquire from her about her pubertal development*
xiii. *History of any abnormal Papanicolau (Pap) smear and treatment etc.*
xiv. *Previous fertility investigations and treatment.*

Husband

→ *Inquire if he has any children from any previous relationships.*
→ *Whether he has ability to achieve an erection, sustain sexual activity and subsequent appropriate ejaculation of semen.*
→ *Inquire whether he has had any previous investigations done e.g. semen analysis, hormonal evaluation, vasogram.*
→ *Inquire if he has any congenital abnormalities in the reproductive system that he knows about.*

Past Medical History

➢ *Any previous surgeries she has had. Previous abdominal or pelvic surgery, in particular gynaecological procedures.*

- *Any chronic condition she suffers from e.g. DM, TB, HIV/ AIDS and HTN etc.*

Drug and Food History

- *Drug history and present, e.g. agents which cause hyperprolactinaemia, past cytotoxic treatment or radiotherapy.*
- *Any known allergies to drugs or food.*

Gynaecological History

- *Menstrual history: menarche, cyclicity, pain, bouts of amenorrhoea, menorrhagia, intermenstrual bleeding.*
- *Any STIs.*
- *Number of Sexual partners she has had before marriage and also after marriage.*

Family and Social History

- φ *History of any cancers, infertility or chronic diseases in family members.*
- φ *History of alcohol, smoking and drugs of abuse.*
- φ *Level of education and occupation.*

Systemic Enquiry

- *CNS: Any delusions, confusion, headache, visual disturbances etc.*
- *Resp:Cough,*
- *CVS: Palpitations, Shortness of breath, tiredness*
- *GIT: Nausea, Vomiting, Diarrhoea, Constipation*
- *GUT: Any change in volume of urine output, colour, any smell, and discharge*

2. What targeted features/ finding would you look for during physical examination in this case? (22 marks)

General Examination: *Height, weight, BMI, Fat and hair distribution (Ferriman– Gallwey score to quantify hirsutism). Note presence or absence of acne, galactorrhoea and alopecia, thyroid disorders (endocrine disorders). Any jaundice, pallor, Cyanosis, oedema, wasting (nutritional status), dehydration*

Vital Signs*: Blood pressure, Temperature, Pulse rate, Respiratory rate, General look of patient, posture*

Abdominal Examination:

- ✓ *Inspection: Symmetry, Contour –flat, full, swollen, Moving with respiration, Skin change, Umbilicus whether inverted or everted, Hernial orifices, Hair distribution*
- ✓ *Palpation: Look for any masses, tenderness, guarding*
- ✓ *Percussion: Any areas of dullness or shifting dullness*
- ✓ *Auscultation: Normal bowel Sounds- reduced or non-existent, high pitched or increased*

Pelvic Examination:

Digital Exam: Any discharge, color

Speculum: Vaginal wall, cervix any visible masses

*Bimanual Exam**:** Exclude any pelvic pathology [Position of the cervix, length, vaginal masses, tenderness, adnexal masses and tenderness, uterine fibroids, endometriosis (fixed uterus, painful), vaginismus*

External Genitalia: *Ambiguity, hair distribution*

3. What investigations would you request for, Justify (8 marks)

TEST	***JUSTIFICATION***
FHG	*Hb- anaemia, WBC – R/o sepsis, infection*
Colposcopy and Pap Smear	*Possibility of cervical cancer hence cervical screening*
Semen Analysis	*Possibility of male infertility (husband), semen analysis reveals significant agglutination of sperm, then anti- sperm antibodies may be present*
Post coital/ Cervical Mucus test	*The investigator examines the specimen to determine if there are motile sperm visible under light microscopy.*
Screening	*VDRL, TB, Chlamydia*
Hormonal Profile	*Baseline day 2-5 FSH (high in POF, low in hypopituitarism), LH, TSH, Prolactin, testosterone*
Progesterone Level	*Mid luteal progesterone level to confirm ovulation (> 30nmol/l)*
Pelvic Ultrasound	*Confirm whether there is presence of uterine fibroids or masses*
Diagnostic Laparascopy	*To check for pelvic pathologies e.g. adhesions, peritonitis, pelvic inflammatory disease, salphingitis etc.*
Hysterosalpingography	*Check for pelvic pathologies e.g. tubal blockage or any congenital abnormalities e.g. bicornuate uterus*

TERM 3 CAT 1 TAKE HOME 10TH JULY- 18TH JULY, 2014

Total Marks Out of 50

Mrs. Wanjugu is a 29 year old para 1 + 0 gravida 2 at 33 weeks gestation by date and by a first trimester obstetric ultrasound. She suffers from chronic kidney disease and high blood pressure antedating pregnancy. She presents in the antenatal clinic complaining of severe headache and epigastric pain. You check her ANC booklet and find that her antenatal profiles are ok, her blood pressure has been well controlled and she has had No proteinuria. However, from the nurse records today her BP is 160/115mmHg, and urinalysis shows proteinuria 4+

1) **Make a comprehensive diagnosis (5 marks)**

Mrs. Wanjugu, a 29 year old para 1 + 0 gravida 2 at 33 weeks gestation diagnosed with severe pre-eclampsia superimposed on chronic hypertension with underlying chronic kidney disease

2) **What relevant history would you take from Mrs Wanjugu? (1 x 1, max 15)**

I. ***Confirm Mrs. Wanjugu's biodata*** *once again*

II. ***Hx of Presenting Illness:***

- ✓ ***Headache****: Nature/ character of onset, duration, site of pain (whether frontal or occipital, severity of the pain, ad any associated symptoms e.g. Visual complaints, changes in mental status – confusion, apprehension, convulsions, nausea or vomiting*
- ✓ ***Epigastric pain****: When it started, nature of onset (gradual or acute) and duration, character of the pain, relieving factors, exact site and relieving factors and aggravating factors. Any associated symptoms such as nausea, vomiting which may be present in severe preeclampsia.*
- ✓ ***History of chronic hypertension****: Duration of dx, severity of hypertension, treatment and treatment adherence as well as level of hypertensive control achieved. This is important because chronic hypertension is a risk factor for preeclampsia and its severity. Chronic hypertension is also responsible for dysfunction of other organ systems like the urinary and cardiovascular system therefore lack of adequate treatment or control of pressure would lead to increased risk of co- morbidities in pre- eclampsia.*
- ✓ ***History of chronic kidney disease****: duration of disease, grading of chronic kidney disease, treatment and progression of the chronic kidney disease. Important as chronic kidney disease is a risk factor for preeclampsia and the disease will affect hypertension as well as increasing the risk of renal damage and other comorbidities associated with preeclampsia. T will also have a bearing on management as certain drugs used for treatment are contraindicated and there maybe need for dialysis if renal function falls beyond a certain level.*

III. ***Systemic Enquiry***

a) ***Respiratory System****: Elicit if there has been any retrosternal chest pain, shortness of breath, cyanosis due to pulmonary edema*
b) ***Genitourinary System****: Any change in urine output, frequency of micturition, colour of urine, any pain while micturition. Other symptoms such as flank pain, any discharge to rule out urinary tract infections. Any other features that are associated with renal failure such as body swelling, malnutrition etc should be probed for.*

c) ***Cardiovascular System****: History of weakness, malaise due to inadequate tissue perfusion caused by the hypertensive state.*
d) ***CNS****: History of changes in cognitive functions like confusion, apprehension, neurologic deficits such as cranial nerve palsy's, history of convulsions, visual disturbances should be assessed. May reveal complications of preeclampsia such as intracerebral haemorrhage and progression of disease to eclampsia.*
e) ***Gastrointestinal System****: changes in appetite, bowel movements, yellowing of the eyes could reveal areas that need to be considered during management.*

IV. Past Medical History

❖ *In addition to history of chronic hypertension and chronic kidney dx inquire on any other medical diseases the patient has ever had.*

V. Drug history

→ *All medications that the patient has been receiving and had received in the past. Adherence to her treatment and whether she knows of the side effects and adverse reactions, as well as history of known allergies.*

VI. Family History

- *Elicit if there has been such a disease in the family. If present what was the outcome and how it affected people.*

VII. Social History

✓ *The patient's education level, marital status, occupation- day to day activity and any history of smoking, alcohol or any other drug use.*

VIII. Gynaecological History

Age at menarche, cycle length, duration of flow, dysmenorrhoea, volume regularity. Ask her of the LNMP. Any previous contraceptive use, and if yes which type and for how long. Also inquire whether she has ever had any sexually transmitted infections, if yes what treatment did she get and was her partner treated also. Since STI's could complicate pregnancies.

IX. Obstetric History and Previous Pregnancy

▪ *Length of gestation in previous pregnancy, duration of labour, mode of delivery, birth weight and fetal outcome and fate of the baby. Any complications during labour and pueperium period. This will allow anticipation of any complications that may arise and also adequate management plans.*

3) State and justify the investigations you will do on Mrs Wanjugu (1 x 1, max 10)

Test	*Justification*
Full Blood Count and Haemogram	*Reveal anaemia and thrombocytopenia due to haemolysis as well as to assess need for blood transfusion. Check for HELLP syndrome*
Peripheral Blood Film	*To spot presence of haemolysis and morphology of red cells. Also an increase in reticulocyte count may point to haemolysis of red cells.*
GXM	*In case need arises for an emergency Caesarean section*
Coagulation screen (BT, PT, APTT)	*In case of thrombocytopenia the bleeding time may be increased and the coagulation time may also be increased in case DIC which is a complication of pre- eclampsia*

Serum electrolytes and Serum creatinine	*Monitor renal function and assess need for dialysisas well as monitor progression of pre-eclampsia. In case of kidney damage urea, and creatinine levels will be high. R/p HELLP Syndrome Baseline for monitoring for MgSO4, toxicity*
Urinalysis and 24 hour urine	*To determine proteinuria which is an indicator of severity of disease as well as indicating response to treatment. Urine should also undergo microscopy and culture to rule out UTI which may complicate pregnancy.*
LFTS – AST, GGT, ALT, and Bilirubin	*R/o HELLP syndrome*
Chest X ray	*To assess pulmonary edema*
Non Stress test	*Assess fetal wellbeing*
Obstetric U/S, BPP/ RI	*Assess fetal status to determine mode of delivery, estimate fetal weight, confirm gestation, and assess fetal maturity. Also to assess amniotic fluid volume to show if there may be presence off fetal growth restriction*

4) Outline the management plan for Mrs Wanjugu (10 marks)

Supportive/ Conservative Management

→ *Admit Mrs Wanjugu in the hospital ask her to be lying in lateral decubitus position.*

→ *Do a quick assessment of the airway, breathing and circulation*

→ *High protein and low sodium diet*

→ *Start her on oxygen by mask if needed*

→ *Fix 2 large bore IV cannulas in case of additional fluids required. Fluid management to avoid fluid overload.*

→ *Draw blood samples from laboratory tests*

→ *Daily Observation*

- *Maternal: BP should be measured regularly. Fix an indwelling catheter for monitoring urine volume (input/ output) and proteinuria*
- *Fetal Monitoring: Assess fetal well- being, NST, BPP/RI, daily fetal movement counts*

→ *Drug Supportive Management*

- *Control BP – IV hydralazine for control of BP higher than 160/110mmHg (1), Aldomet/ Nifedipine*
- *If the urine output satisfactory from history/ what is emptied on catheterization, start Magnesium sulphate for convulsion prophylaxis*
  - ✓ *MgSO4 – loading dose: 4g IV infusion given over 15 – 20 minutes*
  - ✓ *MgSO4 maintenance dose: 1- 2g/ hour to continue up to 24 hours after delivery or the last convulsion whichever occurs last*
- *Sedatives: Diazepam to alleviate any anxiety that may be present*

Definitive Management

⇒ *Corticosteroid Administration: Dexamethasone to help in fetal lung maturity in anticipation of premature or preterm delivery. 6mg IM every 24 hours for 2 days*

- ⇒ *Deliver: Target to deliver within 48 hours; preparation for delivery. Control BP and IV access. Also take blood for grouping and cross-match. Cervical ripening using Misoprostol should be initiated and oxytocin administered to induce labour. Do a Bishop score, examine mother, to determine mode of delivery. Caesarean section indicated if fetal distress or failure of induction of labour. AMTSL to prevent PPH or any other complications*
- ⇒ *Social and Psychosocial support to the patient. To involve family members in the management by ensuring proper support to the patient. Patient education on various outcomes should also be done.*
- ⇒ *Institute monitoring – BP, and for Magnesium sulphate toxicity, convulsions, RR, Fetal monitoring*
- ⇒ *Multidisciplinary Approach: Involve other disciplines as necessary, Paediatrician, renal physician, ICU, Neurosurgeon and nutritionist*
- ⇒ *Postpartum care: continue to monitor vitals and blood pressure and adjust dose of antihypertensive as needed. Continue anticonvulsant prophylaxis. Give dexamethasone to avoid PPH. Platelet count to assess risk of bleeding and determine need for transfusion. Measure urine output, proteins and RFTs to check for resolution of preeclampsia*

5) What are some complications that are likely to arise from Mrs Wanjugu's current condition? (10 marks)

Maternal Complications

I. *Progression to eclampsia (convulsions and coma)*
II. *Intra- Cerebral haemorrhage*
III. *Abruption placentae: detachment of placenta due to hypertension*
IV. *HELLP Syndrome: triad consisting of hemolysis, elevated liver enzymes and low platelet count*
V. *DIC (Disseminated intravascular coagulation: Due to consumption of platelets*
VI. *Acute renal failure: Damage to glomerular cells due to hypertension*
VII. *Liver failure*
VIII. *Transient blindness due to pupiloedema or retinal detachment*
IX. *Pulmonanry edema*
X. *Cardiorespiratory arrest*
XI. *Preterm labour*
XII. *PPH*
XIII. *Recurrent pre- eclampsia in next pregnancies*

Fetal Complications

A. *Intrauterine growth restriction*
B. *Intrauterine fetal demise*
C. *Prematurity and its complications e.g. sepsis*
D. *Chronic uteroplacental insufficiency*
E. *Intrauterine Asphyxia*

TERM 3 CAT 2 25TH JULY, 2014 & TERM 3 26TH JULY, 2013

Total Marks Out of 100

A 36 Year old Para 0 + 1 presents with a 10 year history of inability to conceive despite regular unprotected coitus since her marriage, and a 2 year history of heavy menstrual flow. Abdominal examination reveals a pelvic mass corresponding to an 18 week gravid uterus.

a) Based on the above information what other relevant history would you wish to elucidate from the patient? (30 marks)

History of Presenting Illness

Infertility (10 marks)

- *Menstrual History: cycle length, duration, flow with/ without dysmenorrhoea (1)*
- *Any contraception in use currently and in the past (1)*
- *History of treatment for STIs, PV discharge, pelvic pain or dyspareunia (1)*
- *Galactorrhoea, headaches, vision abnormalities (1)*
- *Any voice changes, hair distribution changes (1)*
- *Has she had any abdomino- pelvic surgery (1)*
- *Last pregnancy- events surrounding miscarriage, at what gestation, was an MVA, or D &C done, was it an ectopic (1)*
- *Has spouse sired other children, his age, profession, does he smoke, take alcohol, is he diabetic? (1)*

Pelvic Mass (10 marks)

- → *Has patient noted any pelvic mass? Is it fast / slow growing, is it painful*
- → *Any urinary symptoms- urinary incontinence, frequency, dysuria, retention*
- → *Any GIT symptoms – constipation*
- → *Feeling of heaviness in the pelvis*
- → *Any care sought for these complains?*
- → *Investigations done*
- → *Management offered*

Heavy Menstrual Flow (10 marks)

- φ *Palpitations, Dizziness, malaise*
- φ *Oedema, Easy fatigability*
- φ *Shortness of breath, orthopnoea*

b) What clinical signs would you elicit on general examination (10 marks)

Infertility (5 marks)

- *Signs of androgen excess- Hair distribution pattern- check for beard, male pattern, temporal balding*
- *Weight, height- Obesity*

- *Acne*
- *Acanthosis nigricans,*
- *Breast development,*
- *Galactorrhoea,*
- *Enlarged thyroid*

Haemorrhage- Anaemia (5 marks)

- *Tachycardia*
- *Pedal Edema*
- *Koilonychia*
- *Conjuctival and Palmar pallor*
- *Haemic murmur*

c) How was the conclusion of a pelvic mass arrived at and what other examination would you perform to validate the findings? (10 marks)

- *The conclusion of a pelvic mass would be made on deep palpation of the abdomen. The mass has a clearly defined upper border but the lower border cannot be palpated i.e. one cannot go below the mass suprapubically*
- *A bimanual vaginal examination would help differentiate a pelvic mass from an adnexal mass. To do a bimanual examination two fingers are placed inside the vagina and are touching the cervix, using the other hand that is placed on the abdomen, the pelvic mass is moved towards the xiphisternum. If the mass is uterine the cervix will move with it and if not it will not move and the mass would yet be felt by the fingers touching it initially. The origin of the mass is then adnexal.*

d) What are the differential diagnosis for the pelvic mass? (10 marks) *(2 marks each)*

Infertility

1. *Tubal blockage*
2. *Uterine abnormalities*
3. *Cervical incompetence*
4. *Male infertility*
5. *Pelvic inflammatory disease*

Pelvic mass

I. *Uterine pregnancy*
II. *Uterine leiomyomata (fibroid)*
III. *Cervical carcinoma*
IV. *Ovarian cancer/ tumour/ cyst*
V. *Tubo ovarian abscess*
VI. *Gestational trophoblastic disease (e.g. Hydatidiform mole)*
VII. *Adenomyosis*
VIII. *Endometrial carcinoma*
IX. *Dysfunctional uterine bleeding*
X. *Cervical polyps*
XI. *Urinary bladder tumours*
XII. *Lower GIT Mass- colorectal tumours*
XIII. *Ectopic pregnancy*
XIV. *Endometrial hyperplasia*
XV. *Endometrial polyps*

e) What investigations would you undertake for this patient? (20marks)

Infertility (5 marks)

- *Semen analysis*
- *Pelvic ultrasound*

Test	***Justification***
FBC	*To assess anemia*
Pregnancy Test and Serum HCG	*To assess pregnancy or GTD*
Hormonal Profile	*To check for endocrine disorders affecting the menstrual flow. TSH, T4, FT3, LH, FSH, Oestradiol, Progesterone, Prolactin*
Pelvic Ultrasound	*To know the exact location of the mass*
Hysterosalphingiogram/ Intravenous Pyelogram	*To assess blockage in fallopian tubes or any abnormality in the uterus.* *IVP show the size, shape, and position of the urinary tract (kidney, bladder, ureters and urethra and it can evaluate the collecting system inside the kidneys.*
ESR/ CRP	*To show any current infection*
Pap Smear	*For cytology to know whether she has cervix cancer*
Blood and urine culture	*To assess presence of any pathological organisms or infections*
Stool	*Examination for occult blood and ova*
Laparascopy	*To investigate cause of infertility whether she has fibroids, PID etc.*
KFTs	*Check U,E,Cs to know how well the kidney is functioning as some drugs are excreted via the kidney*
LFTs	*To check if there is any metastasis to the liver hence leading to liver dysfunction*
Semen Analysis	*To know if there is any abnormality in the count, viscosity, pH etc.*

f) From the differential diagnosis, what is the most likely condition and how would you manage this patient? (20 marks)

Diagnosis

- *The most likely diagnosis for this patient: A 36 year old para 0 + 1 presenting with menorrhagia, infertility and a pelvic mass due to uterine leiomyomas/ fibroids and/ or having tubal blockage*

Management

The treatment of this patient will depend on the:

⇒ *Symptoms*
⇒ *Size*
⇒ *Rate of growth of uterus*
⇒ *The woman's desire for fertility*

Supportive Management

- φ *Correction of anaemia using haematinics and vitamins in case she has a low haemoglobin level.*
- φ *If she is very anaemia then use of blood transfusion*
- φ *Oral contraceptives or progestins can help control menstrual bleeding, but they don't reduce fibroid size.*
- φ *Non-steroidal anti-inflammatory drugs (NSAIDs), which are not hormonal medications, may be effective in relieving pain related to fibroids, but they don't reduce bleeding caused by fibroids.*
- φ *Treatment of any infections she has.*
- φ *Watchful waiting if there is only mild annoying signs and symptoms and infertility is due to tubal blockage.*

*Treatment of fibroids is either **medical** or **surgical** or **radiological***

Medical Tx

Involves use of hormones

I. *Drugs used to minimize bleeding and shrink fibroid*
II. *Combined oral contraceptive pill*
III. *Progestogens: pills or mirena, IUCD, nevonogesterone*
IV. *GnRH antagonist e.g. Danazol preoperatively shrink fibroids and reduce menstrual related anaemia and also reduce menorrhagia*
V. *GnRH agonist e.g. Leuprolide- preoperatively shrink fibroids and reduce menstrual related anaemia*

Surgical

Is usually done in cases with

a) *Symptomatic fibroids*
b) *Asymptomatic fibroids – rapidly enlarging or raising concerns of leiomyosarcoma*

The types of surgery:

- φ *A definitive hysterectomy which will involve removal of the uterus*
- φ *If the family size has not been achieved like in her case a myomectomy can be performed to remove the fibroids*
- φ *A myomectomy and tuboplasty can be done incase there is also blockage of the fallopian tubes*
- φ *Other treatment method is use of a radiological treatment i.e. uterine artery embolization and occlusion*
- φ *Endometrial ablation*

Counselling

She should also be counselled in case a hysterectomy is chosen or done (TAH) then other methods of fertility like adoption, IVF using a surrogate mother.

TERM 3 CAT 4 8TH AUGUST, 2014

Total Marks Out of 60

Jane is a 31 year old para 1 + 1. Her LMP was 6 weeks ago. She had SVD 2 years ago to a female infant who is alive and well. 8 months ago she had a spontaneous miscarriage at 8 weeks and MVA was done. She has not been on any contraception since that miscarriage. Now she presents in your outpatient clinic with complains of PV bleeding for the last 2 days.

1. **What additional history would you take from Jane (15 marks)**

→ *Inquire about her vaginal bleeding- find out amount (no. of pads), colour, whether its fresh blood or clotted blood (bright red or dark red) and any associated pain or other constitutional symptoms like fever, nausea or vomiting like hyperemesis gravidarum*
→ *Inquire also if she has noticed any passage of vesicles.*
→ *Inquire whether she has exaggerated pregnancy symptoms hyperemesis - nausea, vomiting*
→ *Inquire whether she has signs of anaemia: easy fatigability, oedema, malaise, dizziness and shortness of breath*

Previous obstetric history

✓ *Inquire about the miscarriage-(spontaneous), when it happened, what was the reason, what further medical attention was given, whether it was an MVA or D and C. Whether there was any complications and interventions made, and also if there was histology of the products of conception*
✓ *Inquire also whether she has history of previous molar pregnancy*
✓ *Inquire about the living infant, mode of delivery, outcome, and weight.*

Gynaecological History

φ *Inquire about her LNMP, whether it's regular or irregular, and onset of menarche, any pain or discomfort during menstruation*
φ *Inquire whether she has had any previous STIs, treatment of herself and her partner*

Drug and Contraception History

- *If she has had any drugs in the past 6 weeks, whether she has been on contraception before, if yes which one and what was the side effects or adverse effects faced.*

Family and Social History

- *Inquire whether in her there is any known cancers. Also whether anyone has suffered from gestational trophoblastic disease.*
- *Whether there is any use of smoking, drinking alcohol or any drugs of abuse*

Systemic Enquiry:

⇒ *GIT: Inquire whether there is any change in bowel habits*
⇒ *CVS and Resp: Palpitations, Shortness of breath,*
⇒ *CNS: Visual disturbances*
⇒ *GUT: Incontinence, changes in frequency in case it's a tumour leading to pressure symptoms*

2. **What are the possible findings on pelvic of Jane (10 marks)**

- *Inspection of the abdomen would reveal an enlarged abdomen.*
- *The size of the uterus will be larger than the corresponding gestational age*
- *There will be no palpable fetal parts or fetal cardiac activity*
- *On speculum examination- use of Pederson's speculum there is per vaginal bleeding from the introitus with vesicles. The pederson's speculum allows to note if the bleeding is from the cervix as it allows better vision of the external cervical os.*
- *There will be an open cervix with bluish purplish vesicles (if choriocarcinoma). There could alsobe products of conception. There may be a decreased length of the cervix and it may be soft and thin*
- *On bimanual examination there maybe adnexal masses*
- *There could also be a vaginal discharge a foul smell. A hyperemic vulva*
- *There may be abdominal tenderness*

3. **What are the differential diagnosis (5marks)**

- *Abortion or miscarriage*
- *Gestational trophoblastic disease (H. mole)*
- *Ectopic pregnancy*
- *Implantation bleeding*
- *Dysfunctional uterine bleeding*
- *Cervical lesions e.g. Vascular erosions, polyps*
- *Ruptured varicose veins*

You request Jane to do a pregnancy test and a pelvic ultrasound. The pregnancy test is positive, pelvic Ultrasound shows multiple ovarian cysts in both ovaries largest measuring 5cm by 4 cm and a uterine mass with 'snowstorm' appearance and no fetus

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4. **Make a comprehensive diagnosis? (3 marks)**

Jane, a 31 year old, para 1+1 gravida 3 with a complete hydatidiform mole pregnancy at 6 weeks gestation by date and history per vaginal bleeding.

5. **List and justify additional investigations you will request for (8 marks)**

Test	***Justification***
Beta HCG levels	*To quantify the amount of HCG present and determine the baseline and severity. In a normal pregnancy it doubles in 48 hours while in a molar pregnancy it may increase at an alarmingly fast and higher rate. In ectopic pregnancy it increases but does not double in 48 hours.*
Full Blood Count	*To determine and quantify anemia*
Coagulation profile (GXM)	*To rule out a differential of coagulation disorders and also in case she needs blood transfusion and rule out rhesus disease*

Urinalysis	*In H. mole this is usually a pseudo pre- eclampsia with characteristic proteinuria before 20 weeks at gestation. If present may come to a diagnosis and help replenish lost proteins.*
Liver function tests	*Baseline liver function tests for drug administration*
U,E,Cs	*To assess renal function since she might need chemotherapy and the drugs will be excreted in the drug*
X ray	*Chest x- ray to see if there is metastasis to lungs and abdominal X-ray which could also be used to show the honey comb appearance though not commonly used presently*
Pelvic ultrasound	*To confirm presence or absence of theca lutein cysts*
CT Scan/ MRI	*To assess metastasis to the brain, is an indicator to good or bad prognosis*

6. **Having taken history, examined and investigated Jane, outline her management (10 marks)**

Supportive Management

- φ *Counsel Jane on the probable diagnosis and what procedure is going to be done. Also counsel her on a hysterectomy in case she has uncontrollable bleeding and also about future infertility*
- φ *Give blood transfusion or haematinics (in case anaemic) and take blood for grouping and cross match in case there is need for transfusion.*
- φ *Administer an antibiotic cover in case of suspected infection*
- φ *NSAIDS to treat the pain*
- φ *Proper hydration*
- φ *Follow up with serum beta HCG titres every 2 weeks until titres are normal; then every 2 weeks for 3 months and monthly for 9 months*
- φ *Oral contraceptives – for contraception and to regularize menses. Avoid contraception that may cause abnormal uterine bleeding*
- φ *If titres remain normal for a year pregnancy may be allowed again*

Definitive Management

- ♠ *Suction evacuation under 40 IU oxytocin drip with cross matched blood on standby (2- 4 units) using ordinary suction under GA. The Specimen is taken for histology. Suction evacuation is safer than sharp curettage on this soft uterus, while high dose syntocinon drip helps reduce haemorrhage that can be fatal.*
- ♠ *Sharp curettage may be done two weeks later to complete the evacuation of vesicles. In this case blood cross-matching is not necessary as minimal bleeding is expected. In some centres this step (sharp curettage) has been abandoned.*
- ♠ *Hysterectomy if uncontrollable haemorrhage- as last resort.*
- ♠ *Chemotherapy required if beta HCG levels remain very high. Low risk disease: Methotrexate and high risk or intermediate risk - EMACO*

7. **During follow- up, when would you initiate chemotherapy for gestational neoplasia on Jane (4 marks)**

Indications for Chemotherapy

⇒ *Serum hCG levels > 20, 000 IU/L at 4 weeks after uterine evacuation.*
⇒ *Rising Beta HCG levels*
⇒ *Beta HCG levels plateau- i.e. remain at same level in two readings*
⇒ *Beta HCG levels still elevated after 15 weeks*
⇒ *Rising levels after reaching normal levels*
⇒ *Histology of evacuation specimen reveals chorio-carcinoma cells*

8. List the cytotoxic agents used as 1st line for management of choriocarcinoma (5 marks)

i) Etoposide
ii) Methotrexate
iii) Actinomycin D
iv) Cyclophosphamide
v) Oncovin/ Vincristine

TERM 3 CAT 5 15TH AUGUST, 2014

Total Marks Out of 100

Maternal and perinatal morbidity and mortality are important indices of health care status in a country. In Kenya, maternal and perinatal mortality are unacceptably high.

1) **Define maternal death (6 marks)**

Defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

2) **List the five major direct causes of maternal death in Kenya (10 marks)**

I. *Haemorrhage – 25%*
II. *Infection/ Sepsis- 15%*
III. *Unsafe abortion- 13%*
IV. *Preclampsia/ Eclampsia – 12%*
V. *Obstructed labour – 8%*

3) **List the three major indirect causes of maternal death in Kenya (6 marks)**

a) *Malaria*
b) *Diabetes*
c) *Sickle cell disease- Anaemia*
d) *HIV*
e) *Cardiac Disease*

4) **For each of the five major direct causes of maternal death in Kenya indicate two evidence based interventions to reduce mortality (30 marks)**

i. ***Haemorrhage:*** *Active management of third stage of labour which includes IM oxytocin 5 IU after delivery, controlled cord traction and uterine massage.* ***Availability of blood transfusion services*** *such that all patient requiring blood transfusion can get safe blood for transfusion so as to prevent shock and its complications.*
ii. ***Infections****: Availability and administration of antibiotics which can be given whenever there is indication of infections or sepsis in the mother. Administration of tetanus toxoid during ANC visits as per the required timelines.*
iii. ***Unsafe Abortion****: Provide family planning services and comprehensive education to prevent unwanted pregnancy. Offer comprehensive post abortion care so as to prevent complications of unsafe abortions such as administration of antibiotics and manual vacuum aspiration of removing retained products of conception.*
iv. ***Eclampsia****: Administration of IV MgSO4 to all eclamptic mother. Regular monitoring of BP during Antenatal care and preventing development of eclampsia from pre- eclampsia.*
v. ***Obstructed labour:*** *Monitor progress of labour using partograph and take interventions based on impending signs of obstructed labour as shown by the partograph. Availability of caesarean section such that mothers in obstructed labour can be quickly and safely delivered.*

5) Emergency Obstetric Care (EmOC) contributes to reduction of maternal mortality

a) List the six signal functions of EmOC facility (18 marks)

i. Administration of IV antibiotics
ii. Administration of IV/ IM oxytocin
iii. Administration of IV anticonvulsants
iv. Removal (manual removal) of the placenta
v. Removal of retained products of conception
vi. Provisions of Assisted vaginal delivery e.g. vacuum delivery techniques or forceps delivery

b) State the two additional functions that make a facility a Comprehensive Emergency Obstetric Care Centre (6 marks)

I. Availability of blood transfusion services
II. Availability of surgical procedure i.e. caesarean section delivery

c) State the three delays that contribute to maternal death (9 marks)

i. Delay in making decision to seek health care
ii. Delay in reaching health facility
iii. Delay in receiving services at health facility

d) For each of the three delays, stipulate how each can be addressed (15 marks)

Delay in making decision to seek health care

Can be addressed through the following ways:

- *Provision of maternal care at very low costs or free of charge*
- *Education of women on importance of safe motherhood*
- *Educating and involving traditional birth attendants in safe motherhood practices*
- *Improved socioeconomic status of women so that they have the ability to make their own independent decisions*
- *Encouraging change of socio- cultural factors that prevent health seeking behaviour by health education*

Delay in reaching health facility

This can be addressed by:

- *Ensuring that there is sufficient distribution of health facilities all geographic areas*
- *Ensuring physical access to health facilities is adequate by building roads, bridges*
- *Provision of transport services e.g. ambulances*

Delay in Health Facilities

- *Health facilities should be adequately staffed to ensure patients are not kept waiting for too long*
- *Adequate training of health workers to identify complications and manage them appropriately in the shortest time possible*
- Staff should handle patients with respect and care so as to not create negative perception of health facilities

TERM 3 CAT 6 22ND AUGUST, 2014

Total Marks Out of 100

Bleeding in early pregnancy is a common cause of pregnancy related morbidity.

A.

1. State five differential diagnosis of early pregnancy bleeding in which pregnancy test is positive (5marks)

I. Ectopic pregnancy
II. Molar pregnancy
III. Abortion e.g. threatened or inevitable abortion
IV. Coincidental causes - Infections(chlamydia), neoplasms e.g. Pregnancy with carcinoma of cervix
V. Incidental/ accidental causes such as trauma- blunt or sharp
VI. Dysfunctional uterine bleeding

2. Give two reasons why metropathia haemorrhagica is considered a differential diagnosis of early pregnancy bleeding (5 marks)

→ *There is presence of bleeding just like in other forms of abortions e.g. threatened, inevitable, incomplete, complete etc.*
→ *Since there is no lower abdominal pains. It is painless just like in a threatened abortion*

3. Define abortion and state the different types (10 marks)

Abortion: Basic definition - termination before gestation commensurate with fetal viability – often 28 weeks or WHO definition – termination before 20 weeks of gestation or if fetus weighs <500gm. (Variability of definition affects comparative vital statistics)

Different types of Abortion

⇒ *Based on etiology*
  i. Spontaneous abortion
  ii. Induced abortion
  iii. Therapeutic
  iv. Criminal
  v. Clandestine
  vi. Legal
⇒ *Based on clinical classification*
  a) Threatened abortion
  b) Missed abortion
  c) Inevitable abortion
  d) Incomplete abortion
  e) Complete abortion
  f) Septic abortion
⇒ *Based on whether or not there is sepsis: Septic abortion*
⇒ *Based on consistency of occurrence: Habitual or recurrent abortion*

4. Compare and contrast threatened abortion with missed abortion with regard to the following

a. Clinical Presentation (5marks)

Threatened Abortion	*Missed Abortion*
There is vaginal bleeding though minimal	*Bleeding is irregular, (slight or no)*
No lower abdominal pains	*No lower abdominal pains*
Signs of pregnancy e.g. nausea and vomiting are present	*Signs of pregnancy are initially present though start regressing*
No coagulopathy	*May have a coagulopathy due to thromboplastin release from dead fetus*

b. Pelvic examination (5 marks)

Threatened Abortion	*Missed Abortion*
Cervix is closed and firm	*Cervix is closed and firm*
Uterine size corresponds to gestation age	*Uterine size < gestation age*
Cervix may have signs of pregnancy e.g. Chadwick's sign	*Cervix appears normal*
All POCs are in utero	*All POCs are in utero*
Presence of per vaginal bleeding	*Presence/ absence of per vaginal bleeding*

c. Ultrasonographic features (5 marks)

Threatened Abortion	*Missed Abortion*
Normally appearing gestational sac	*Collapsed gestational sac(blighted ovum)*
Fetal cardiac activity detectable	*Fetal cardiac activity absent*
Fetal pole present	*Fetal pole maybe present*
Fetal movements can be seen	*No fetal movements noted*

d. Treatment approach (5 marks)

Threatened Abortion	*Missed Abortion*
Expectant management with lots of bed rest	*Coagulation screen must be done to rule out coagulopathy which may be caused by release of thromboplastin by the dead fetus*
Nutritional supplements of iron and folate	*Evacuation of the uterus using manual vacuum aspiration or electric suction or D & C*
Possible use of anti- tocolytics, progestagen, antibiotics and sedatives	*Anti- D if > 12 weeks or heavy bleeding or pain or medical/ surgical management*
Amniocentesis to check for any fetal abnormalities	
Regular ultrasounds to assess fetal well-being/ fetal viability	
Anti-D if > 12 weeks or heavy bleeding or pain	

Cervical incompetence and bicornuate uterus are structural defects both of which are associated with recurrent pregnancy losses

1. **Describe the pathophysiologic basis of the above phenomenon (pregnancy losses) – (10 marks)**

***Cervical incompetence**: Weakness of the cervical internal os which may be caused by congenital anomalies such as short cervix, traumatic vaginal delivery, obstructed labour, perforation of cervix, fetal delivery before cervical dilation.*

The above factors lead to weakness of cervical musculature such that during pregnancy due to the increasing weight and expansion of amniotic sac which fills the uterine cavity at 14 weeks hence manifestation of cervical incompetence in 2nd trimester.

This leads to rupture of membranes followed by bleeding and contractions and severe incompetence could lead to painless fall of the amniotic fluid sac and protrusion of sac from the cervical os.

***Bicornuate Uterus** – Anomaly is as a result of incomplete fusion of the uterine horns at the level of the fundus. Abnormal development of the paramesonephric ducts. There is partial failure of fusion of ducts.*

Due to incomplete fusion presence of uterine horns at the level of fundus makes it less compliant to implantation or leads to fetal growth restriction hence this could lead to spontaneous abortions.

2. **What are the main differences in clinical presentation of the said phenomenon (10 marks)**

Cervical Incompetence	***Bicornuate Uterus***
Recurrent mid trimester abortions (MTAs)	*Recurrent pregnancy loss/ spontaneous abortions (1st trimester)*
Subsequent falling gestation	*Rising gestation age/ length with subsequent abortions*
Rupture of membranes often the initial event	*Premature birth and malpresentations (Breech birth/ transverse presentation)*
Pain often not a significant feature	*Lower abdominal pains with bleeding*
In severe cervical incompetency the membranes tend to protrude from the cervix	*Deformity*

3. **What are their treatment options (5 marks)**

Cervical incompetence:

i. *Cervical encirclage*
ii. *Mc Donald Stitch*
iii. *Shrodkar Stitich*
iv. *Trachelorrhaphy*

***Bicornuate Uterus**: Metroplasty (Strassman's Operation) – a procedure to join the thw uterine halves*

B.

Sepsis is a leading cause of maternal morbidity and mortality

1. **State at least five predisposing factors for maternal sepsis (10 marks)**

a) Prolonges premature ruputure of membranes
b) Prolonged labours/ obstructed
c) Unsafe/ clandestine abortion (Miscarriage- Spontaneous, induced abortions)
d) Traumatic vaginal delivery
e) Immunosuppression/ compromised immune status of mother
f) Aseptic delivery conditions e.g. delivery at home
g) Infection Group A streptococcal (bacterial) or Viral e.g. Influenza, MRSA)
h) Retained placental products
i) Caesarean section
j) Mastitis

2. **Why is unsafe abortion associated with severe morbidity (5 marks)**

- *Since it may be performed by personnel who lack adequate training*
- *Use of unsterile equipment to facilitate the process*
- *The abortion may be carried out in an unsterile environment/ inappropriate place*
- *The abortion once performed there is no proper managemetnmay lead to patient not even being administered any prophylactic antibiotics*
- *The abortion may lead to infections due to bacteraemia which leads to sepsis*

3. **What clinical signs would you elicit in the event of post abortal salpingoophoritis and pelvic peritonitis? (5 marks)**

1. *Fever (increased temperatures)*
2. *Tachycardia*
3. *Uterine, adnexal and peritoneal tenderness*
4. *Guarding in the abdomen*
5. *Cervical motion tenderness*
6. *Abdominal tenderness and guarding*
7. *Adnexal masses due to pelvic abscesses*
8. *Foul smelling POCS*

4. **What are the clinical manifestations of endotoxic shock? (10 marks)**

i. *Disseminated intravascular coagulation*
ii. *Cardiorespiratory collapse*
iii. *End organ damage e.g. renal failure, cardiac failure*
iv. *Death*
v. *Septicaemia*
vi. *Shortness of breath and increased respiratory rate*
vii. *Fever*
viii. *Tachycardia*
ix. *Edema*
x. *Vaginal discharge*
xi. *Erythematous rash and redness of the skin*
xii. *Restlessness, lethargy and agitation*

5. **State at least five investigations you would institute in the event endotoxic shock (5 marks)**

- *Full blood count/ haemogram and white blood cell count*
- *ESR and C reactive protein*
- *Blood culture and sensitivity tests*
- *Renal function tests (U/E/C)*
- *Urine sample for (M/C/S)*
- *Coagulation profile*

Additional Question: Read

Briefly describe emergency management of endotoxic shock? (10 marks)

TERM 2 CAT 1 TAKE HOME, 2014

Total Marks Out of 100

On your way to the hostels, two MBChB IV students were arguing about whether or not the anatomy of the female pelvis and fetal skull were related and if these played any role in mechanisms of labor. You are from the library and had just researched on this topic and decided to join the discussion

1) State the components of the female bony pelvis *(16 marks)*

Is an innominate bone. Consists of:

a) ***Ilium:*** *It's the upper expanded part. Iliopectineal eminence where the ilium and pubic fuse makes up 2/5th of acetabulum.*
b) ***Ischium****: L- shaped and forms the posterior- inferior part of the pelvis.*
c) ***Pubis****: Has a body and two rami (superior and inferior). And makes up 1/5th of the acetabulum.*

Lower ramus fuse with ramus of ischium forming anterior boundary of obturator foramen and subpubic arch.

d) ***Sacrum****: Forms the back of the pelvis. Wedge shaped consisting 5 fused vertebrae. First forms the sacral promontory. Anterior surface smooth and concave. 4 sets of foramina exit the sacral nerves*
e) ***Coccyx****: Small triangular shaped bone. Consists 4 fused rudimentary vertebrae. Gives attachment to ligaments, muscle fibres of anal sphincter, ischiococcygeus muscle= posterior section of pelvic floor. During labour it moves backwards to increase pelvic outlet.*

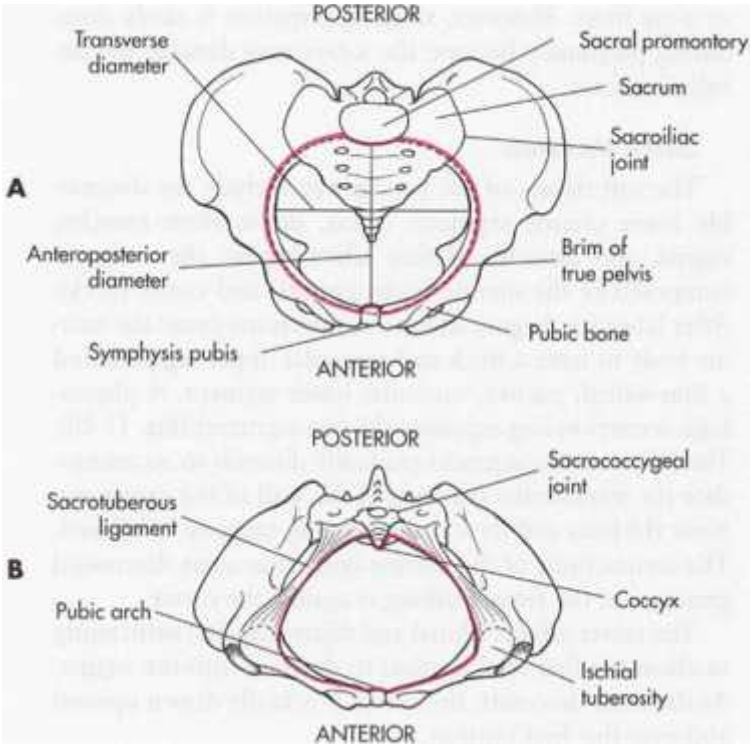

Figure 1: Components of the bony pelvis

2) List the joints of the bony pelvis, stating the type of joint *(6marks)*

I. *Sacroiliac joints: Are two in number, slightly movable synovial and fibrous joints. Mobility > in pregnant and puerperal women*
II. *Symphysis pubis: is one in number. Slightly movable secondary cartilaginous joint. In last two months of pregnancy gap > from 4mm – 7 mm*
III. *Acetabulum: 2 Cartilaginous joint*

3) List and describe diameters of the pelvic inlet *(14 marks)*

Pelvic Brim and Inlet

A. *Anteroposterior diameter*
   I. *Obstetric Conjugate: From sacral promontory to upper inner border of symphysis pubis=11cm*
   II. *True conjugate (anatomical) is from promontory to centre of upper surface pubis symphysis*
B. *Right and left oblique diameters*
   - *From R sacroiliac to L iliopectineal eminence and vice versa= 12cm*
C. *Transverse: Between widest points on iliopectineal lines= 13cm*
D. *Sacrocotyloid: From sacral promontory to iliopectineal eminence on same side=9cm*
E. *Diagonal conjugate: From apex of pubic arch to sacral promontory=1.25cm more than obstetric conjugate*

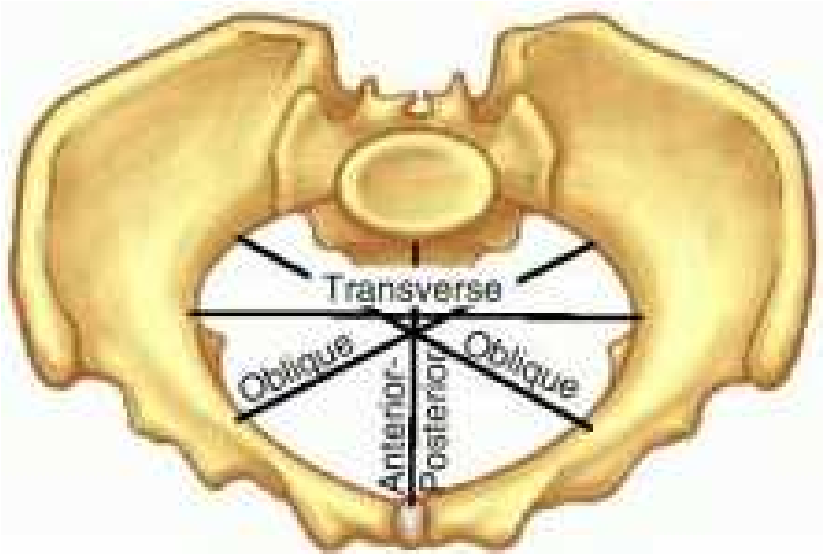

Figure 2: Various diameters of the pelvic inlet

4) List and describe the diameters of the mid-cavity *(9 marks)*

a) *Antero- posterior diameter: Is almost circular bounded by the hollow sacrum, sacroiliac joints, ischia and the sacrospinous ligaments. Right and left upper and lower pubis rami, the bodies of pubis and the symphysis pubis.*
b) *Transverse Diameter: same as Anteroposterior diameter*
c) *Intertuberous Diameter: Is between the two ischial tuberosities*

Pelvic cavity

Extends downwards and backwards from pelvic inlet,intervenes between inlet and outlet.

Posterior wall of the cavity longer than anterior wall.

Boundaries

Anteriorly
By symphysis pubis and body of the pubis with its rami

Posteriorly
Concave pelvic surface of sacrum and coccyx.

On each side
Quadrangular area formed by pelvic surface of ilium and ischium.

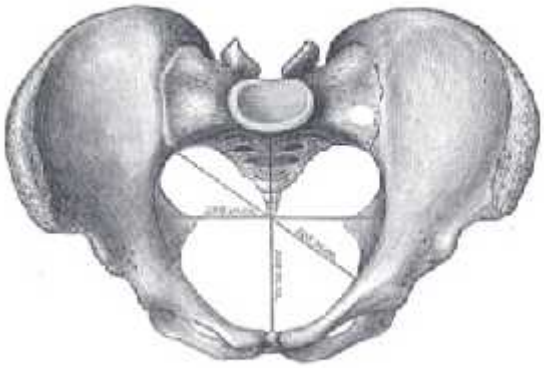

Figure 3: Pelvic cavity boundaries

5) List and describe the diameters of the pelvic outlet *(6marks)*

a) Antero- posterior Diameter: From sacrococcygeal joint to the lower border of SP=13cm

b) Transverse of outlet between ischial spines measures 10.5-11 cm

Outlet is wider from front to back and narrower from side to side. This is why head emerges with its long diameter antero-posterior

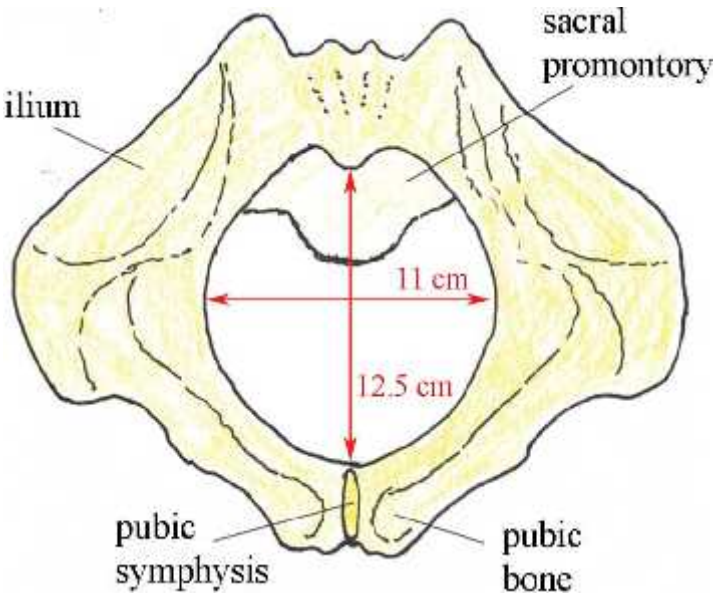

Figure 4: Diameters of pelvic outlet, viewed from below

6) **In a gynecoid pelvis, state the mean pelvic dimensions for the following diameters:** ***(7 marks)***

   a. **Pelvic brim**

      i. **Anteroposterior:** 11cm (obstetric conjugate)

      ii. **Transverse:** 13 cm

   b. **Mid-cavity**

      i. **Anteroposterior:** 12cm

      ii. **Transverse:** 12cm

      iii. **Intertuberous:** 11cm

   c. **Outlet**

      i. **Anteroposterior:** 13cm

      ii. **Transverse:** 11cm

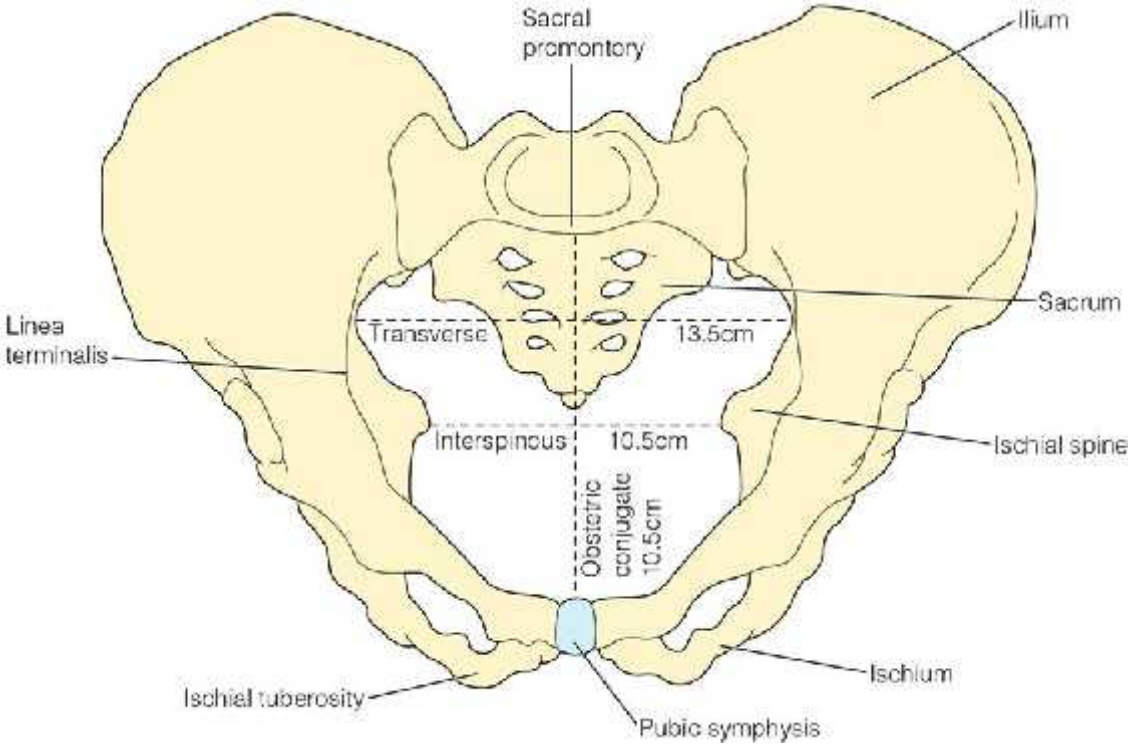

Figure 5: Pelvic Planes; Coronal section and diameters of the bony pelvis

7) **State and describe the important landmarks of the fetal skull** ***(14 marks)***

A. ***Vertex****: Bounded in front by anterior fontanelle, behind by posterior fontanelle, and laterally by parietal eminences*

B. ***Brow****: or sinciput, area over frontal bone*

C. ***Occiput****: Area over occipital bone*

D. ***Face****: Supraorbital ridges to chin*

E. ***Vault****: Thin sheets of bone separated at sutures, by membrane. This allows for moulding and development of the brain*

8) In cephalic presentation state the mean dimensions of the following fetal head diameters (4 marks)

a) Suboccipitobregmatic, 9.5 cm. Full flexion (flexed vertex)

b) Suboccipitofrontal, 10 cm. Almost fully flex (partially deflexed vertex)

c) Occipitofrontal, 11.5 cm. Deficient flexion (deflexed vertex)

d) Mentovertical, 13.5 cm. Brow

e) Submentovertical, 11 cm. Face not fully extended

f) Submentobregmatic, 9.5 cm fully extended face

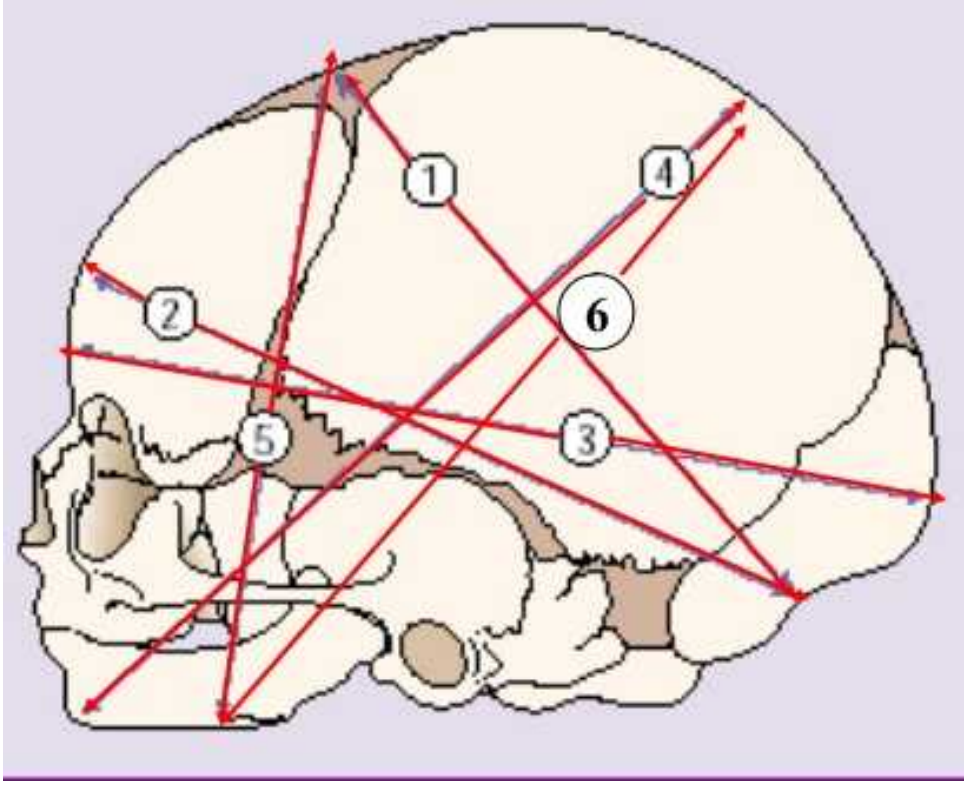

Figure 6: Figure showing various mean dimensions of fetal head diameters

Other Dimensions

A. *Transverse Diameters*
- *Biparietal: 9.5 cm*
- *Bitemporal: 8 cm*

B. *Circumference*

⇒ *Suboccipitobregmatic, 33 cm. Well flexed, this fits in lower uterine segment*
⇒ *Occipitofrontal, 35 cm. Deflexed does not fit well in lower uterine segment*
⇒ *Mentovertical, 39 cm*

9) Mechanisms of labor are adaptation and positional changes of the fetal head in order to achieve vaginal delivery. Summarize the mechanisms of labor in an occiput anterior presentation *(24marks)*

Mechanism of labour also known as cardinal movements of labour. Refer to a series of changes in the position and attitude of the presenting part, fetal head in normal labour, during its passage through the birth canal.

The sequence of event is as follows:

A. Engagement
B. Descent
C. Flexion
D. Internal Rotation
E. Extension
F. Restitution and External Rotation
G. Delivery of shoulders and fetal body

A. Engagement

This is when the head normally enters the pelvis in the transverse position or some minor variant of this, so taking advantage of the passage of the widest diameter of the presenting part to a level below the plane of the pelvic inlet. Engagement has occurred in the vast majority of nulliparous women prior to labour, but not so for the majority of multiparous weeks

In cephalic presentation with a well flexed head, the largest transverse diameter of the fetal head is the biparietal diameter which is 9.5cm

Assessed by assessment of the presenting part abdominally or vaginally. The number of fifths of the fetal head palpable abdominally is often used to describe whether engagement has taken place. If more than 2/5th of the fetal head is palpable abdominally, the head is not engaged.

B. Descent

Refers to downward passage of the presenting part through the pelvis and it occurs before flexion, internal rotation and extension. Is gradual and progressive- greatest rate occurs during the deceleration phase of the first stage of labour and during second stage of labor.

During the first stage and first phase of the second stage of labour, descent of the fetus is secondary to uterine action. In the active phase of the second stage of labour, descent of the fetus is helped by voluntary use of abdominal musculature and the Valsalva manoeuvre ('pushing').

C. Flexion

The fetal head may not always be completely flexed when it enters the pelvis. Flexion of the fetal head onto the chest occurs passively as the head descends due to resistance of the bony pelvis and soft tissues. This passive movement occurs in part, due to the surrounding structures and is important in minimizing the presenting diameter of the fetal head.

D. Internal Rotation

If the head is well flexed, it's rotation of the presenting part from the original position (Usually occiput transverse) on reaching the sloping gutter of the leavator ani muscles since it will be

encourage to rotate anteriorly so that the sagittal suture now lies in the AP diameter of the pelvic outlet (i.e. the widest diameter. Passive, resulting from the shape of the pelvis and resistance of the musculature of the pelvic floor

E. Extension

Following completion of internal rotation, the occiput in underneath the symphysis pubis and the bregma is near the lower border of the sacrum. The soft tissues of the perineum still offer resistance, and may be traumatized in the process.

The well flexed head extends and the occiput escapes from underneath the symphysis pubis and distends the vulva. (Occurs once the fetus has descended to the level of the introitus). This is known as the crowning of the head.

Brings the occiput of the baby in contact with the pubis symphysis. The heads extends further and the occiput underneath the symphysis pubis acts as a fulcrum point as the bregma, face and chin appear in succession over the posterior vaginal opening and perineal body. This extension and movement minimize the soft tissue trauma by utilizing the smallest diameters of the head for the birth.

F. Restitution and External rotation

Restitution: *When the fetal head is delivering, the occiput is directly anterior. As soon as it escapes from the vulva, the head aligns itself with the shoulders, which have entered the pelvis in the oblique position. The slight rotation of the occiput through one eighth of the circle.*

External rotation*: in order to be delivered, the shoulders have to rotate into the direct AP plane (remember the widest diameter at the outlet). When this occurs the occiput rotate through a further one eighth of a circle to the transverse position.*

Fetal head rotates to the correct anatomic position in relation to the fetal torso: left or right depending on orientation of the fetus. Passive, result from release from the forces exerted on the fetal head by the maternal bony pelvis and its musculature.

G. Delivery of the Shoulders and fetal body

When restitution and external rotation have occurred, the shoulders will be in the AP position. The anterior shoulder is under the symphysis pubis and delivers first, and the posterior shoulder delivers subsequently.

Although this process may occur without any assistance, lateral traction is often exerted by gently pulling the fetal head in a downward direction to help release the anterior shoulder from beneath the pubis symphysis.

Normally the rest of the fetal body is delivered easily, with the posterior shoulder guided over the perineum by traction in the opposite direction, so sweeping the baby on to the maternal abdomen.

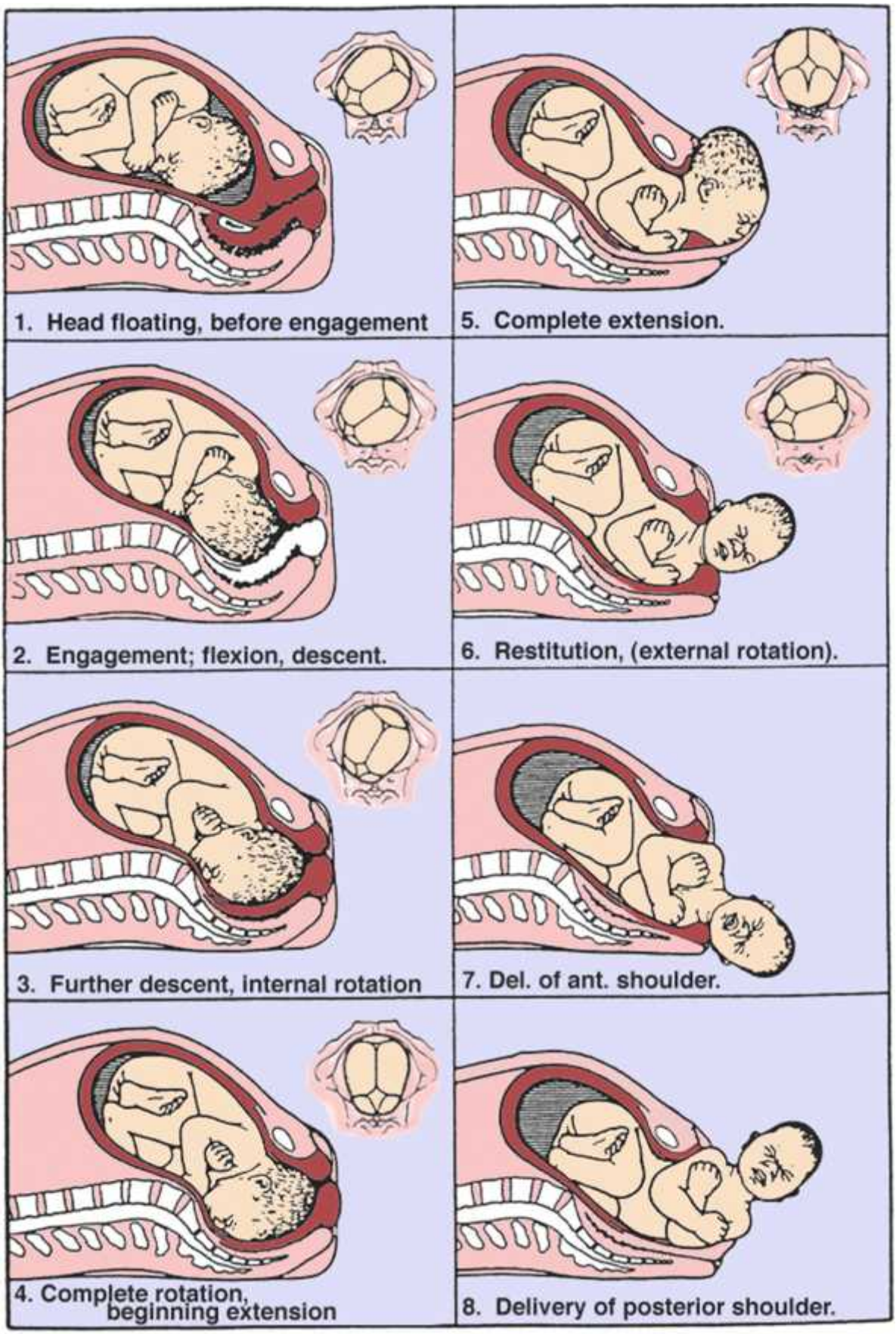

Figure 7: Mechanisms of Labour

TERM 2 CAT 4 2014 & TERM 2 CAT 2 2015 (WITH MARKING SCHEME)

Total Marks Out of 100

You are asked to review Esther Muthoni, a 36 year old para 3+ 0, who presents to KNH gynaecology clinic with complaints heavy menstrual bleeding. Her last delivery was 5 years ago. You are expected to take conduct a comprehensive evaluation of her history, clinical findings and investigations in order to arrive at a diagnosis and institute appropriate management plan

1) What additional history would you obtain from Esther (30 marks)

- φ *Last menstrual period (LNMP) (1)*
- φ *Bleeding pattern (1) – colour (1), duration (1), amount (1), frequency (1)*
- φ *Severity of bleeding (1)*
- φ *Gynaecological history e.g. age at menarche (1), surgical history (1)*
- φ *Relevant general medical- concurrent illness (1)*
- φ *Medications that affect coagulation (1), haemostasis (1) / menstrual cycles including contraceptives (1)*
- φ *Risk factors for gynaecological malignancies (1) – family history, prior malignancies (1)*
- φ *Family history (1) – bleeding disorder/ similar disorders (1)*
- φ *Precipitating factors e.g. trauma (1)*
- φ *Associated symptoms (1):*
  - ⇒ *Lower abdominal pain (1), fever (1), and/ or vaginal discharge (1) - indicating infection (PID, endometritis), postcoital bleeding indicating cervical lesion e.g. cancer (1)*
  - ⇒ *Dysmenorrhoea (1), dyspareunia or infertility (1), suggest endometriosis/ adenomyosis*
  - ⇒ *Changes in bladder (1), or bowel function (1), suggest extrauterine bleeding or a mass effect from a neoplasm*
  - ⇒ *Endocrinologic causes e.g. galactorrhoea (1), heat or cold imbalance (1), hirsutism (1) or hot flushes (1)*
  - ⇒ *Recent illness (1), stress (1), excessive exercise (1), or possible eating disorder (1) - suggest hypothalamic dysfunction (1)*
  - ⇒ *Symptoms associated with complications (1) e.g. anaemia (1), heart failure (1)*

2) What essential clinical examination will you conduct to assist in establishing the diagnosis? (6 marks)

- *General examination (1): (stable, weak, lethargic depending on severity of symptoms)*
- *Vital signs (1)*
- *Pelvic examination (1)*
  - ✓ *Inspection/ external (1)*
  - ✓ *Speculum examination (1)*
  - ✓ *Digital vaginal examination (1)*
  - ✓ *Bimanual examination (1)*

3) What investigations would you conduct to further evaluate the patient? Justify the different investigations that you will order (22 marks)

Laboratory (2 marks each= 12 marks)

I. *CBC- check for Hb- anaemia, WBC – infection and coagulopathy – platelets*
II. *Coagulation profile – for coagulopathies, INR/ APTT/ Bleeding time/ Clotting time*
III. *Endocrine: TSH, Prolactin, Estrogen, Androgens, Progesterone- endocrine causes*
IV. *Pap Smear, VIA/ VILI- exclude cervical bleeding*
V. *Endometrial sampling/ fractional curettage- endometrial hyperplasia*
VI. *Pregnancy test- pregnancy related bleeding*

Radiological (any3, 2 marks each = 8 marks, complete mark for explanation and/ or finding)

- *Pelvic US – uterine or adnexal masses*
- *Transvaginal US – endometrial/ uterine lesions*
- *HSG- endometrial masses*
- *Sonohysterography- endometrial lesions*
- *MRI*

Others (2 marks)

- *Hysteroscopy – endometrial lesions*

4) One of the investigations shows that Esther Muthoni has multiple uterine fibroids in all the layers. Outline the non- surgical and surgical treatment plan will you offer her (42 marks)

<u>Non- surgical</u>

Observation/ watchful waiting (2 marks): Mildly symptomatic (1)

Medical Therapy (2 marks each = 14 marks)

a) *Nonsteroidal anti-inflammatory drugs (NSAIDs)*
b) *Gonadotropin- Releasing Hormone Agonists (GnRH-a)*
c) *Gonadotropin- Releasing Hormone Antagonist*
d) *Progesterone- Mediated Medical Treatment*
e) *Progesterone receptor blockade mifepristone*
f) *Progesterone – Releasing Intrauterine device, levonorgestrel- releasing intrauterine system (LNG- IUS)*

<u>Surgical</u>

Radiological (2 marks each = 6 marks)

⇒ *Uterine artery embolization*
⇒ *Magnetic Resonance – Guided Focused Ultrasound*
⇒ *Myolysis and Cryomyolysis*

Surgical Treatment Options (2 marks each = 8 marks)

a) *Myomectomy*
b) *Simple hysterectomy*
c) *Endometrial ablation*
d) *Uterine artery occlusion: either laparoscopic or non- incisional transvaginal*

<u>Supportive Management (2 marks each – 8 marks)</u>

Manage Anaemia

I. *Iron supplementation with Vitamin C, 1000 IU per day (to increase iron absorption)*
II. *Recombinant erythropoietin especially preoperatively*
III. *Preoperative use of progesterone to control menorrhagia*
IV. *Preoperative use of tranexamic acid to control menorrhagia*
V. *Transfusion of blood/ blood products*

TERM 2 CAT 5 2014

Total Marks Out of 100

During your KNH labour ward rotation, the midwife alerts you about Jane Njambi, a 39 year old now para 4 +0 who presents as a referral from a peripheral facility with a history of heavy per vaginal bleeding following a home delivery assisted by a traditional birth attendant. She delivered about 30 minutes prior to presentation. The nurse is concerned that Jane has postpartum haemorrhage and asks you to review the patient

1) **Define and classify postpartum haemorrhage? (15marks)**

- φ *The most common definition of PPH is estimated blood loss > 500 ml after vaginal birth or > 1000ml, after caesarean delivery OR*
- φ *Excessive bleeding after vaginal or caesarean delivery that makes the patient symptomatic (e.g. pallor, light headedness, weakness, palpitations, diaphoresis, restlessness, confusion, air hunger, syncope,) and/ or results in signs of hypovolemia (e.g. hypotension, tachycardia, oliguria, low oxygen saturation [95%])*

Classification

Traditional Definition

- *Blood loss of > 500 mL following vaginal delivery*
- *Blood loss of > 1000 mL following caesarean delivery*

Functional Definition: Any blood loss that has the potential to produce or produces hemodynamic instability

Definition –time related

- ✓ *Primary -that bleeding that occurs after delivery of the baby up to the first 24 hours- Most common cause is uterine atony*
- ✓ *Secondary-any bleeding after 24 hours up to the end of 6 weeks of puerperium- usually due to sepsis*

2) **On further enquiry Jane and her family express concern that the outcome would have been different if this complication was anticipated. You state that the clinician cannot predict the outcome but can identify risk factors for postpartum haemorrhage. What are the risk factors for postpartum haemorrhage? (25 marks)**

Maternal

- → *Retained placenta*
- → *Failure to progress during 2nd stage of labour*
- → *Antepartum haemorrhage e.g. Placenta accreta*
- → *Episiotomy*
- → *Caesarean section & also previous C/S*
- → *Instrumental delivery especially forceps delivery*
- → *Hypertensive disorders*
- → *Induction of labour*
- → *Pyrexia in labour*

→ *Augmentation of labour with oxytocin*
→ *Grand multiparity ñ 5 births*
→ *Overdistension of the uterus- multiple pregnancy, polyhydramnios, large for gestational age new-born*
→ *Malnutrition and anaemia*
→ *Prolonged labour*
→ *Malformation of the uterus*
→ *Precipitate labour*
→ *Previous PPH*
→ *Raised or increased maternal age*
→ *Primiparity*
→ *Uterine fibroids*
→ *Bleeding disorders*
→ *Obesity*

Fetal

- *Large baby- macrosomia*
- *Multiple pregnancy*
- *Polyhydramnios*
- *Shoulder dystocia*

3) You and your colleagues brainstorm on the causes of Jane's diagnosis of postpartum haemorrhage, and the general and cause specific management of Jane following the diagnosis.

a. List four causes of postpartum haemorrhage (8 marks)

I. *Tone: Uterine atony (70%)*
II. *Tissue: Retained tissue placenta &/ or membranes or clots 20%*
III. *Trauma: Laceration, rupture, inversion (10%)*
IV. *Thrombin/ Thrombopathy: Coagulopathy (1%) vWD or platelet disorders*

b. List the general management plan (8 marks)

❖ *Call for help while applying aortic compression*
❖ *ABC- check airway, breathing and circulation. Oxygen administration*
❖ *Fix 2 large bore (14 gauge) IV cannula and start IVF- crystalloids 2 litres*
❖ *Take and send blood from GXM, request for at least 2 units of blood*
❖ *Evaluate for and address cause of PPH while an assistant continues fluid resuscitation, blood transfusion, monitors BP, PR, and EBL and input- output chart and take notes*
❖ *Foley catheter into bladder and empty bladder*
❖ *P/A, uterus atonic- massage the uterus, start oxytocin drip 40 units in 1l, N/S drip,*
❖ *Do a pelvic exam, look for cause of bleeding- empty the bladder and retain catheter for input-output monitoring, note source, amount and nature of bleeding, check for tears. Perform bimanual uterine massage.*
❖ *Uterus remains atonic- Give ergometrine if no contraindications, if not working give 15 methyl PGF2 alpha 250 micrograms IM/ intramyometrically or Misoprostol 800 micrograms PR*

c. For each cause, list the specific management plans (24 marks)

Uterine Atony*:*

- *Massage uterus, Aortic Artery compression*
- *Bimanual compression*
- *Continue uterotonics. Uterus remains atonic- Give ergometrine if no contraindications, if not working give 15 methyl PGF2 alpha 250 micrograms IM/ intramyometrically or Misoprostol 800 micrograms PR.*
- *Uterus still atonic- uterine tamponade- balloon tamponade*
- *If still atonic- proceed to surgical methods- Step wise uterine devascularisation: ligation of uterine arteries and utero-ovarian anastomotic vessels unilateral or bilateral, ligation of anterior division of internal iliac artery (unilateral or bilateral), B- lynch brace suture, angiographic uterine artery embolization*
- *Hysterectomy at a last resort- subtotal*

Retained Placenta:

- ✓ *Manual removal of placenta- accrete, percreta, increta*
- ✓ *Injection of oxytocin*

Tears/ Lacerations etc.

I. *Examine and then repair*
II. *Absorbable sutures used*

Coagulopathy

- *Grouping and cross match*
- *Administration of blood, FFP, Cryoppt, depending on the need*

4) Jane is informed that she is at greater risk of having postpartum haemorrhage in subsequent pregnancy and delivery. What advice and care would prevent postpartum haemorrhage in subsequent pregnancy (8 marks)

φ *Early ANC visit and continued visits at least 4*
φ *Facility delivery*
φ *Identification of risk factors*
φ *Active management of third stage of labours*
  → *Oxytocin following delivery*
  → *Controlled cord traction*
  → *Uterine massage after delivery of placenta*
φ *Monitoring using partograph during subsequent labour to prevent any case of obstructed labour which may lead to uterine tear*
φ *Contraceptive use so as to be able to space her pregnancies*
φ *Inform the next health care provider about this current PPH she has suffered so as to alert them to be more cautious*
φ *Visit a health care provider if there is any antepartum haemorrhage in subsequent pregnancy*

5) One of your colleagues states that Jane's conditions is a major type of obstetric haemorrhage, leading cause of maternal mortality and morbidity. Describe the other causes of obstetric haemorrhage (12 marks)

a) Placenta previa: abnormal implantation in the lower uterine segment which is a common site of trauma during coitus, vaginal examination. It leads to late pregnancy bleeding
b) Abruption placenta: this is detachment of normally implanted placenta, this leads to bleeding late in pregnancy

c) *Uterine rupture: this may occur due to a previous caesarean scar which ruptures during pregnancy or due to obstructed labour*
d) *Sepsis also cause haemorrhage by causing DIC*
e) *Placenta accrete can also cause obstetric haemorrhage by causing retained placenta after delivery*
f) *Hypertensive Disorders*

TERM 2 CAT 6 2014

Total Marks Out of 100

Helen Wacera is a 44 year old Para 2+0 whose last delivery was 7 years ago who presents to KNH gynaecology clinic as a referral following an "abnormal reading" on a routine Pap smear test. She is concerned because she has been informed that the Pap smear suggests "early stages" of cervical cancer

1. **Helen wants to know if there are any additional tests you can recommend for cervical cancer screening apart from Pap smear. What other techniques are available for cervical cancer screening apart from Pap smear? (6 marks)**

I. *HPV Testing with/ without cytology (3)*
II. *VIA/ VILI (3)*

2. **Helen and her family are concerned about what could have predisposed her to cervical cancer. What additional history would you obtain from her to evaluate her risk factors for cervical cancer? (30 marks)** *2 marks each*

Demographic risk factors

- *Ethnicity (Latin America countries, U.S minorities)*
- *Low socioeconomic status*
- *Increasing age*

Behavioural risk factors

- *Early coitarche*
- *Multiple sexual partners*
- *Male partner who has had multiple sexual partners*
- *Tobacco smoking*
- *Dietary deficiencies e.g. certain vitamins such as A,C E, folic acid may alter cellular resistance to HPV infection and promote viral infection persistence and cervical neoplasia*

Medical Risk Factors

→ *Cervical high risk papillomavirus infection*
→ *Exogenous hormones (combination oral contraceptives)*
→ *Parity*
→ *Immunosuppression e.g. HIV*
→ *Inadequate screening*

3. **After reviewing her Pap smear report you conclude that Helen has Preinvasive lesion of the cervix. Using the Bethesda System, classify the Preinvasive lesions of the cervix that are likely to be reported in a Pap smear and the recommended initial management options? (10 marks)**

Epithelial Cell Abnormality (1 mark each, total 4 marks)	***Recommendation (1 mark each, total 6 marks)***
ASC-US	*Repeat Cytology at 6 and 12 months* *Reflex HPV DNA Testing* *Colposcopy*

LSIL	*Colposcopy*
ASC-H, HSIL, Squamous cell carcinoma	*Colposcopy*
AGC, AIS, Adenocarcinoma	*Colposcopy, Endocervical curettage, HPV- DNA testing for AGC, endometrial sampling*

4. **If any further evaluation, the histology results confirm Preinvasive cervical lesion. What are the specific treatment options will you recommend for her? (7 marks)**

Excisional Options

⇒ *Loop electrosurgical excision procedure*
⇒ *Laser conisation*
⇒ *Cold knife conisation*

Ablative Options

❖ *Cryosurgery*
❖ *Electrofulguration*
❖ *Carbon dioxide (CO2) laser*

Role of Hysterectomy

5. **Helen is lost to follow up for about 10 years after which she presents with symptoms that according to you review are suggestive of cervical cancer. What are the likely symptoms and signs of cervical cancer that Helen is likely to present with (15 marks)**

Symptoms

Early stages:

φ *Watery, blood- tinged vaginal discharge (1)*
φ *Intermittent vaginal bleeding after coitus or douching (1)*

Late Stage

➢ *Heavy bleeding (1)*
➢ *Compression of adjacent organs sciatic nerve root, lymphatic, veins, ureter*
  - *Lower extremity edema (1)*
  - *Low back pain, often radiating down the posterior leg (1)*
  - *Hydronephrosis and uremia (1)*
  - *Haematuria and/ or symptoms of VVF or RVF (1)*

Physical Examination

Early Stages: Most have normal general physical examination

Advanced stages with/ without metastasis

- *Enlarged supraclavicular or inguinal lymphadenopathy (1)*
- *Lower extremity edema (1)*
- *Ascites (1)*
- *Decreased breath sounds (1)*

Speculum Examination

o *Cervix may appear normal if micro invasive (1)*

- *Lesions can be exophytic or endophytic growth, polypoid mass, papillary tissue or barrel shaped cervix, cervical ulceration or granular mass, necrotic tissue (1)*
- *Watery, purulent or bloody discharge (1)*

Bimanual/ Recto- vaginal Examination

- *Enlarged uterus from tumor invasion and growth/ haematometra or pyometra (1)*
- *Thick, hard, irregular rectovaginal septum (1)*
- *Parametra- thick, irregular, firm and less mobile (1)*

6. After undergoing examination under anaesthesia, Helen is found to have invasive cervical cancer. Stage cervical cancer and for each stage outline the management options for invasive cancer of the cervix (32 marks)

Staging of cervical cancer

Stage I – Cancer confined to cervix
Stage IA – Microinvasive disease
Stage IA1 – Stromal invasion less than 3 mm
Stage IA2 – Stromal invasion 3–5 mm, not in excess of 7 mm in horizontal spread
Stage IB – Lesions greater than 7 mm in horizontal spread
Stage II – Involvement beyond cervix, including vagina except for the lowest third, or infiltration of parametrium but not extending to pelvic sidewall
Stage IIA – Involvement of upper two-thirds of vagina, without lateral extension into parametrium
Stage IIB – Lateral extension into parametrial tissue but not extending to pelvic sidewall
Stage III – Involvement of lowest third of the vagina or pelvic sidewall or causes hydronephrosis
Stage IIIA – Involvement of lowest third of vagina
Stage IIIB – Involvement of pelvic sidewall or hydronephrosis
Stage IV – Cancer extends beyond reproductive tract
Stage IVA – Involvement of bladder or rectal mucosa
Stage IVB – Distant metastasis or disease outside true pelvis

Figure 8: Staging of Cervical Cancer

General treatment for primary invasive cervical carcinoma (2 marks each= 16 marks total)

Cancer Stage	***Treatment***
IA1	*Simple hysterectomy preferred if childbearing completed or cervical conisation*
IA1 (with LVSI)	*Modified radical hysterectomy and pelvic lymphadenopathy or radical trachelectomy and pelvic lymphadenectomy for fertility*
IA2	*Radical hysterectomy and pelvic lymphadenectomy or radical trachelectomy and pelvic trachelectomy for fertility*
IB1, Some IB2, IIA1	*Radical hysterectomy and pelvic lymphadenectomy or radical trachelectomy and pelvic trachelectomy for fertility or chemoradiation*
Bulky IB2, IIA2	*Chemoradiation*

IIB to IV A	*Chemoradiation or rarely pelvic examination*
IV B	*Palliative chemotherapy and/ or palliative radiotherapy or best supportive care (hospice)*

TERM 1 CAT 4 21ST FEBRUARY, 2014

Total Marks Out of 50

Jane Muthoni is a 44 year old, para 2+0 last delivery 5 years ago who presents to KNH gynaecology clinic as a referral following an "abnormal reading" on a routine pap smear test. She is concerned because she has been informed that the Pap smear suggests "early stages" of cervical cancer.

a) List other techniques apart from Pap smear that can be used to screen for cervical cancer. (4 marks)

→ *HPV Testing with/ without cytology (2)*
→ *VIA/ VILI (2)*

b) What additional history would you obtain from this patient to evaluate the risk factors for cervical cancer (16 marks)

Demographic Risk Factors

1. *Ethnicity (Latin American Countries, U.S. minorities)*
2. *Low socioeconomic status*
3. *Increasing age*

Behavioural Risk Factors

i) Early coitarche
ii) Multiple sexual partners
iii) Mal partner who has had multiple sexual partners
iv) Tobacco smoking
v) Dietary deficiencies

Medical Risk Factors

1) Cervical high risk human papillomavirus infection
2) Exogenous hormones (combination oral contraceptives)
3) Parity
4) Immunosuppression e.g. HIV
5) Inadequate screening

c) Briefly describe the premalignant lesions of the cervix that are likely to be reported in a Pap smear and their management options? (10 marks)

Epithelial Cell Abnormality	General Recommendation	Special Circumstances
ASC-US	Repeat Cytology at 6 and 12 months Reflex HPV DNA Testing Colposcopy	Refer to colposcopy for recurrent abnormal cytology or positive reflex HPV test, adolescents managed with repeat cervical cytology
LSIL	Colposcopy for high adolescent women	Adolescents managed with repeat cervical cytology, HPV DNA test at

		12 months or repeat cytology at 6 and 12 months are also acceptable for postmenopausal women
ASC-H, HSIL, Squamous cell carcinoma	Colposcopy	
AGC, AIS, Adenocarcinoma	Colposcopy, Endocervical curettage, HPV- DNA testing for AGC, endometrial sampling	Endometrial sampling indicated if age > 35 years, abnormal bleeding, chronic _____ or atypical endometrial cells specified

Specific management of cervical intraepithelial neoplasia (6 marks)

- φ *Observation or treatment*
- φ *Excision options*
  1. *Loop electrosurgical excision procedure*
  2. *Laser conisation*
  3. *Cold knife conisation*
- φ *Ablative Options*
  1) *Cryosurgery*
  2) *Electrofulguration*
  3) *Carbon dioxide (CO2) laser*
- φ *Role of hysterectomy*

d) Jane Muthoni is lost to follow up for about 10 years after which she presents with symptoms suggestive of cervical cancer. List the symptoms and signs of cervical cancer (5 marks)

Symptoms

Early stages:

- ⇒ *Watery, blood- tinged vaginal discharge*
- ⇒ *Intermittent vaginal bleeding after coitus or douching*

Late Stage

- ➢ *Heavy bleeding*
- ➢ *Compression of adjacent organs sciatic nerve root, lymphatic, veins, ureter*
  - ❖ *Lower extremity edema*
  - ❖ *Low back pain, often radiating down the posterior leg*
  - ❖ *Hydronephrosis and uremia*
  - ❖ *Haematuria and/ or symptoms of VVF or RVF*

Physical Examination

Early Stages: Most have normal general physical examination

Advanced stages with/ without metastasis

- o *Enlarged supraclavicular or inguinal lymphadenopathy*
- o *Lower extremity edema*
- o *Ascites*
- o *Decreased breath sounds*

Speculum Examination

- *Cervix may appear normal if micro invasive*
- *Lesions can be exophytic or endophytic growth, polypoid mass, papillary tissue or barrel shaped cervix, cervical ulceration or granular mass, necrotic tissue*
- *Watery, purulent or bloody discharge*

Bimanual/ Recto- vaginal Examination

- *Enlarged uterus from tumor invasion and growth/ haematometra or pyometra*
- *Thick, hard, irregular rectovaginal septum*
- *Parametra- thick, irregular, firm and less mobile*

e) Outline management options for malignant cancer of the cervix (5 marks) *Complete marks, if given by stage of disease otherwise half the total marks)*

General Treatment for Preinvasive cervical carcinoma

Cancer Stage	***Treatment***
IA1	*Simple hysterectomy preferred if childbearing completed or cervical conisation*
IA1 (with LVSI)	*Modified radical hysterectomy and pelvic lymphadenopathy or radical trachelectomy and pelvic lymphadenectomy for fertility*
IA2	*Radical hysterectomy and pelvic lymphadenectomy or radical trachelectomy and pelvic trachelectomy for fertility*
IB1, Some IB2, IIA1	*Radical hysterectomy and pelvic lymphadenectomy or radical trachelectomy and pelvic trachelectomy for fertility or chemoradiation*
Bulky IB2, IIA2	*Chemoradiation*
IIB to IV A	*Chemoradiation or rarely pelvic examination*
IV B	*Palliative chemotherapy and/ or palliative radiotherapy or best supportive care (hospice)*

f) Discuss the different levels and strategies for prevention of cervical cancer (10 marks) (Maximum 10 marks for comprehensive discussion of at least 5 factors)

Primary Prevention

i) Risk reduction
ii) Nutritional factors and the prevention of cervical cancer e.g. carotenoids, vitamin A and retinoids, Vitamin C, E and Folate
iii) HPV Vaccines

Secondary Prevention

1) Papanicolaou cervical smear
2) Human papilloma virus typing (HPV)
3) VIA/ VILI

TERM 1 CAT 5 28TH FEBRUARY, 2014

Total Marks Out of 100

Mrs Farah is a 40 year old Para 6+ 0. She has been referred to your hospital from a peripheral facility due to post-partum haemorrhage. She is sick looking, very pale, her BP is 80/ 40 mmHg, and her bedding is blood soaked.

1. Define post-partum haemorrhage (6marks)

- ♠ *The most common definition of PPH is estimated blood loss ≥ 500 ml after vaginal birth or ≥ 1000ml, after caesarean delivery OR*
- ♠ *Excessive bleeding after vaginal or caesarean delivery that makes the patient symptomatic (e.g. pallor, light headedness, weakness, palpitations, diaphoresis, restlessness, confusion, air hunger, syncope,) and/ or results in signs of hypovolemia (e.g. hypotension, tachycardia, oliguria, low oxygen saturation [95%])*

2. The referral note lacks adequate information. Take relevant history from Mrs Farah and the nurse accompanying her (15 marks)

- φ *Place of delivery*
- φ *Mode of delivery*
- φ *Time of delivery*
- φ *Outcome of delivery*
- φ *When did bleeding start*
- φ *Estimated blood loss at delivery and at diagnosis of PPH (nurse)*
- φ *Management instituted at the referring facility including drugs, blood transfusion and operations done (Nurse)*
- φ *Does she have dizziness, weakness, palpitations, any fainting episode?*
- φ *Urine volume or an input- output estimate if the referring facility catheterized the patient and have charted*
- φ *Is she on any anti- coagulants*
- φ *ANC: ANC care for this pregnancy, antenatal profiles, U/S findings during pregnancy and antenatal complications if any during this pregnancy such as APH, Anaemia*
- φ *Past Obs/ Gyn History – Year, mode of delivery, outcome, antepartum and post-partum complications of all previous pregnancies*
- φ *PMHx: Coexisting medical conditions – HTN, DM, Cardiac disease, Asthma; Drug Allergies; Bleeding tendencies*

3. List possible examination findings that would be noted on examining Mrs Farah (15 marks)

- → ***General Exam**: Sick looking, unconscious, very pale, low BP and high pulse rate, tachypnoeic, cold extremities, may have oedema and jaundice, petechial and ecchymosis skin lesions, capillary return > 2seconds, note any IV cannula in place*
- → ***P/A:** Uterus poorly contracted, fundal height greater than 20 weeks, note surgical incision site dressing – whether blood stained, any oozing from the incision site, any abdominal distension, paracentesis for suspected intra- abdominal bleeding may be positive, full bladder may be noted*
- → ***Pelvic exam**: Amount of PV bleeding, colour- fresh red or dark blood is the blood clotting, source of bleeding- from the internal cervical Os or a genital tract tear, retained placenta, inverted uterus, retained POCs*

→ ***Respiratory system****: Respiratory distress, tachypnoea, crepitations (pulmonary oedema from fluid overload)*
→ ***CVS****: Tachycardia, murmurs*
→ ***CNS****: Consciousness level*

4. List the commonest causes of post-partum haemorrhage (6 marks)

- *Uterine atony*
- *Genital tract trauma*
- *Retained products of conception*
- *Coagulation disorders*

5. **Tabulate the bed side/ laboratory tests and their significance in managing the patient above (10 marks)**

Lab Test	***Significance***
Bed side clotting time	*Rule out coagulopathy*
Full haemogram	*Hb- check anaemia* *WBCs- R/o infection* *Platelets – R/o thrombocytopaenia*
GXM	*Patient may need blood transfusion if symptomatic or estimated blood loss too high, prepare for theatre if needed*
UECs	*Baseline, in preparation for theatre if need be*
Coagulation profile	*R/o coagulopathy as a cause or result of PPH and correct it if present*

6. Outline the immediate management of Mrs. Farah in the above scenario (20 marks)

- *Call for help while applying aortic compression*
- *ABC- check airway, breathing and circulation*
- *Fix 2 large bore (14 gauge) IV cannula and start IVF- crystalloids 2 litres*
- *Take and send blood from GXM, request for at least 2 units of blood*
- *Evaluate for and address cause of PPH while an assistant continues fluid resuscitation, blood transfusion, monitors BP, PR, and EBL and input- output chart and take notes*
- *P/A, uterus atonic- massage the uterus, start oxytocin drip 40 units in 1l, N/S drip,*
- *Do a pelvic exam- empty the bladder and retain catheter for input- output monitoring, note source, amount and nature of bleeding, check for tears. Perform bimanual uterine massage*
- *Uterus remains atonic- Give ergometrine if no contraindications, if not working give 15 methyl PGF2 alpha 250 micrograms IM/ intramyometrically or Misoprostol 800 micrograms PR*
- *Uterus still atonic- uterine tamponade- balloon tamponade*
- *If still atonic- proceed to surgical methods- Step wise uterine devascularisation: ligation of uterine arteries and utero-ovarian anastomotic vessels unilateral or bilateral, ligation of anterior division of internal iliac artery (unilateral or bilateral), B- lynch brace suture, angiographic uterine artery embolization*
- *Hysterectomy at a last resort*
- *If the uterus is well contracted and firm and no genital tract tears are noted at the initial evaluation, or cervical tears extending beyond the internal cervical os are noted, or*

paracentesis was positive, exploration by laparotomy is essential, address coagulopathies- FFPs

7. What are the possible immediate and long-term complications of post-partum haemorrhage that Mrs. Farah may experience and therefore should be anticipated (10 marks)

- φ *Death*
- φ *Hypovolemia shock and organ failure: renal failure, stroke, myocardial infarction, postpartum hypopituitarism (Sheehan Syndrome)*
- φ *Fluid overload (pulmonary oedema, dilutional coagulopathy)*
- φ *Failure of lactation*
- φ *Anemia*
- φ *Transfusion- related complications*
- φ *Acute respiratory distress syndrome*
- φ *Anaesthesia- related complications*
- φ *Sepsis, wound infection, pneumonia*
- φ *Venous thrombosis or embolism*
- φ *Unplanned sterilization due to need for hysterectomy*
- φ *Ashermann Syndrome (related to curettage if performed for retained products of conception)*

8. What are the risk factors for Post-partum haemorrhage (10 marks) *(1 x 1)*

i) Retained placenta
ii) Failure to progress during 2nd stage of labour
iii) Placenta accrete
iv) Episiotomy
v) Instrumental delivery
vi) Hypertensive disorders
vii) Induction of labour
viii) Augmentation of labour with oxytocin
ix) Grand multiparity
x) Overdistension of the uterus- multiple pregnancy, polyhydramnios, large for gestational age newborn
xi) Malnutrition and anaemia
xii) Prolonged labour
xiii) Malformation of the uterus
xiv) Precipitate labour

9. List 5 ways of preventing post- partum haemorrhage (5 marks)

- *Improvement of the health status of pregnant women and to keep the haemoglobin level normal so that she can withstand some amount of blood loss*
- *High risk patients who are likely to develop PPH such as grand multiparas, women with multiple gestation, APH, are to be screened and managed in well-equipped hospital*
- *Skilled attendant for every birth*
- *Avoid routine episiotomies*
- *Active management of third stage of labour*
- *Standard operating procedures on prevention and management of PPH to be available in all healthcare facilities*
- *Frequent training of health care providers on anticipation, prevention, prompt detection and management of PPH*

10. What are the components of active management of third stage of labour (3 marks)

a) Administration of uterotonic agents (oxytocin) within one minute of delivery of the baby
b) Controlled cord traction
c) Uterine massage after delivery of the placenta as appropriate- palpate for a contracted uterus every 15 minutes and repeat uterine massage as needed during the first 2 hours

TERM 1 CAT 6 7TH MARCH, 2014

Total Marks Out of 50

Purity is a 28 year old commercial sex worker. She is para 0+ 0 and presents at accidents and emergency with a 2 day history of per vaginal bleeding following 14 weeks of amenorrhea.

1. **What further relevant history would you obtain from the patient in order to establish the cause of bleeding? (10 marks)**

- *Per vaginal bleeding: Find out amount (no. of pads), colour, whether it's frank blood or clotted blood (bright red or dark red), whether she has any associated pain and other constitutional symptoms like fever, nausea or vomiting like hyperemesis gravidarum*
- *Inquire whether with the bleeding does she pass any vesicles*
- *Inquire if she has had any pregnancy symptoms for the past weeks e.g. nausea, vomiting*
- *Inquire if she has any signs and symptoms of anaemia: easy fatigability, oedema, dizziness, malaise, tachycardia and shortness of breath*
- *Inquire whether she has ever conceived before and any miscarriage?*
- *Inquire from her whether she has ever previously been treated for any sexually transmitted infections. If yes what treatment she got for it and whether her sexual partner was also treated*
- *Inquire whether she is using any contraception method? If yes which one and for how long and whether she suffers from any adverse effects*
- *Inquire about her partners and whether they use dual method of contraception during coitus since she is a commercial sex worker*
- *Inquire about her LNMP, regular/ irregular, onset of menarche, cycle length, flow, duration of menstruation, pain or discomfort during menstruation and whether there has been any change*
- *Inquire whether she has considered the thought she could be pregnant and if she has done a pregnancy test*
- *Inquire if she smokes, drinks alcohol or takes any drugs of abuse*
- *Inquire if she has ever had a papanicolau test*
- *Inquire the date of her last isolated coitus*

2. **What is the differential diagnosis? (5 marks)**

→ *Ectopic pregnancy*
→ *Molar pregnancy*
→ *Abortion*
→ *Dysfunctional uterine bleeding*
→ *Coincidental causes- Infections (chlamydia), neoplasms e.g. pregnancy with carcinoma of cervix*

3. **List and justify the investigations you would carry out to evaluate the patient (10 marks)**

Investigation Test	***Justification***
Full haemogram	*To see if the WBCs are elevated due to any infections and also her Hb levels since she could be suffering from anaemia*
Pregnancy Test (beta HCG levels)	*Since she has had amenorrhoea for the past 14 weeks she could be pregnant*

Transabdominal Ultrasound	*This is to view a gestational sac presence, fetal poles in the uterus or elsewhere (ectopic)*
U/ E/ Cs	*This is to confirm that the kidneys are functioning properly since if its elevated then that should be corrected*
Blood and urine samples Culture	*For any possible infection- microscopy, sensitivity*
GXM	*In case of anemia, blood transfusion*

Examination of the patient reveals a 12 week gravid uterus with a cervix 2 cm dilated.

4. **What is the diagnosis? Justify(2 marks)**

Purity a 28 year old Para 0 + 0, and has a history of per vaginal bleeding for 2 days and 14 weeks of amenorrhoea with an inevitable abortion.

5. **List the management options available for her (8 marks)**

- *For the abortion the below could be performed:*
  - → *Manual Vacuum Aspiration*
  - → *Dilation and curettage*
  - → *Allow progression and acceleration with syntocinon*
  - → *Prostaglandin administration*
  - → *Salt Poisoning Saline Injection. Used after 16 weeks (four months) when enough fluid has accumulated.*

(Check other points)

6. **List possible complications that can arise during the management (10 marks)**

- ✓ *Use of prostaglandins for abortion she could suffer from haemorrhage leading to anaemia or shock*
- ✓ *She could suffer from perforation of uterus during the abortion process*
- ✓ *Damage to abdominal structures leading to fistula formation- bowel and bladder injury*
- ✓ *Trauma to cervix leading to cervical incompetence*
- ✓ *Retained products of conception leading to sepsis- Septic abortion*
- ✓ *She could suffer from post abortion triad of fever, bleeding and pain*
- ✓ *She could suffer from a failed abortion*
- ✓ *She could have cervical lacerations*
- ✓ *She could suffer from DIC as a late complication*
- ✓ *She could suffer from psychological stress about loss of the fetus*
- ✓ *She could suffer from anaesthetic complications*

7. **What reproductive health risks is Purity exposed to? (5 marks)**

a) PID
b) Ectopic pregnancy in future
c) Infertility
d) Future abortions
e) *Vaginal trauma may cause dyspareunia (painful sex)*

TERM 3 CAT 4 16TH AUGUST, 2013

Total Marks Out of 95

A.

Obstructed labour is one of the top 5 causes of maternal and perinatal mortality and morbidity

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1. **State in a sequential order the mechanisms of labour (10 marks)**

I. *Engagement of fetal head in the transverse diameter*
II. *Descent*
III. *Flexion*
IV. *Internal rotation*
V. *Extension*
VI. *Crowning*
VII. *Restitution*
VIII. *External rotation*
IX. *Delivery of the shoulders and fetal body*

2. **List the 3 factors/ players that determine the outcome of labour and state the significance of each (10 marks)** *(4P's – Passage, passenger, power and psyche)*

a) *Passage way:*
- ⇒ *Depends on pelvis: Soft tissues, lower uterine segment, Cervix, Vagina and Perineum.*
- ⇒ *Full bladder or rectum*
- ⇒ *Female genital mutilation*
- ⇒ *Vaginal septum*
- ⇒ *Tumour*

b) *Passenger:*
- φ *Depends on Size of passenger i.e. macrosomia*
- φ *Number of passengers*
- φ *Position of passenger which will be Presentation and lie e.g. lack of head flexion*
- φ *Fetal anomalies e.g. hydrocephalus*

c) *Power: forces acting to expel fetus; primarily by involuntary uterine contractions, secondarily by voluntary bearing down. Functions of uterine contraction are effacement and dilation. Ability of the fetus to move down the cervix and upto delivery is determined by the strength or power of the maternal abdominal muscles. Maternal effort may be inadequate*

Psyche:

- → ***Pain***
- → ***Stress/anxiety, mediated by stress hormones; these reduce uterine contractility***
- → ***Fatigue***
- → ***Sadness***
- → ***Frustration***
- → ***Absence of continuous support person***

3. **State 3 features or parameters of a gravid woman that would be of predictive value of a possibility of obstructed labour (6 marks)**

i. *Cephalopelvic disproportion: A small pelvis and while the fetal size is larger*
ii. *Short stature: Gravid women that are short and tend to have a narrow pelvis*
iii. *Obstructing pelvic tumours/ strictures (e.g. fibroids, stenotic lesions of cervix/ vagina)*

4. List at least 10 signs of obstructed labour (10 marks)

i) Rise in temperature
ii) Raised pulse rate
iii) Large caput
iv) Third degree moulding
v) Secondary arrest in progress of cervical dilatation and descent of the presenting part (on partograph: cervical dilation will cross the action line)
vi) Cervix poorly applied to presenting part
vii) Oedematous cervix and vulva
viii) Foul smelling meconium stained liquor
ix) Ballooning of lower uterine segment and formation of retraction bond
x) Maternal distress/ deteriorating maternal condition (dehydration, fever, exhaustion)
xi) Fetal distress (>180/ min or <100/min), thick meconium stained liquor)
xii) Exhaustion by pain
xiii) Dry vagina
xiv) Tonic contractions
xv) Dehydration

5. State at least 5 maternal and 5 foetal complications of obstructed labour (10 marks)

Maternal

a) Postpartum haemorrhage
b) Uterine rupture
c) Obstetric fistulae
d) Chorioamnionitis
e) Increased need for C- section
f) Osteitis neuropraxia e.g. foot drop
g) Ashermann's syndrome

Foetal

I. *Fetal distress*
II. *Fetal death*
III. *Neonatal sepsis*
IV. *Trauma*
V. *Intracerebral haemorrhage*
VI. *Cerebral palsy*

B.

An innovative tool has been developed to help manage labour and foresee adverse outcome.

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i. Name the tool (2 marks)

φ *Partograph*

ii. State the 3 most important parameters of the tool in so far as management of labour is concerned (6 marks)

- *Cervical dilatation*
- *Fetal head descent*
- *Uterine contractions*

iii. What is the significance of the alert and action line (6 marks)

The Alert line precedes the action line starts at 4 cm of cervical dilatation and it travels diagonally upwards to the point of expected full dilatation (10 cm) at the rate of 1 cm per hour. It gives critical information on labour. Any line on its right side indicates critical care needed while a line on the left side indicates good progress of labour

The Action line is parallel to the Alert line, and 4 hours to the right of the Alert line. Once labour proceeds to the right side it's an indication of obstructed labour. Any line plotted on the left side is indicationof labour progressing well though once on action line needs immediate action to be taken

These two lines are designed to warn you to take action quickly if the labour is not progressing normally.

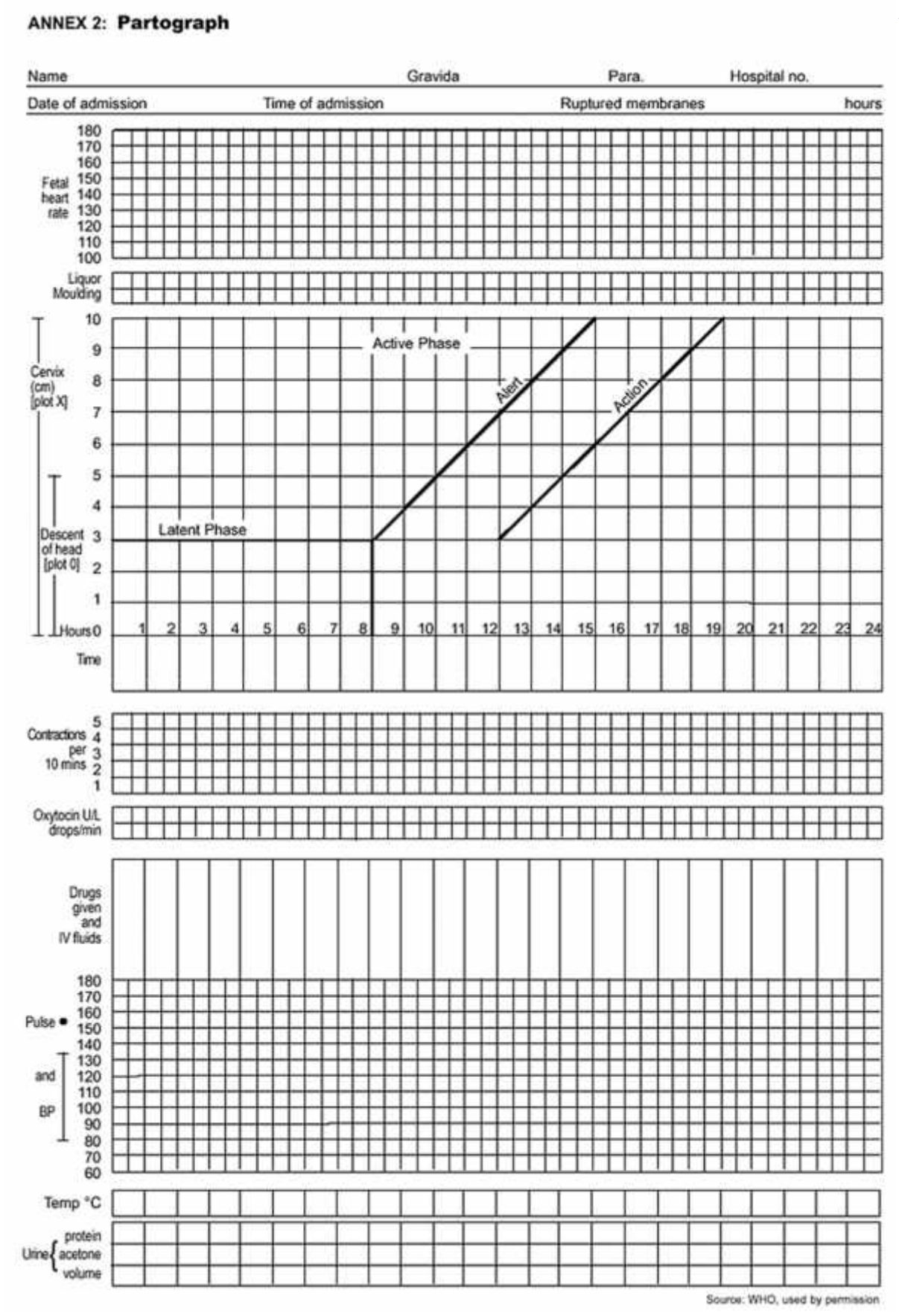

Figure 9: A sample partograph

C.

Rupture of the gravid uterus is one of the catastrophic features of obstructed labour

a) State 5 symptoms and signs of uterine rupture (10 marks)

Symptoms

- ✓ *Vaginal bleeding may occur*
- ✓ *Severe lower abdominal pains occurring suddenly which may reduce or disappear after the rupture*
- ✓ *Disappearance of fetal movements*

Signs

- *Sudden deterioration and shock (restlessness, rapid pulse, low BP)*
- *Pallor of conjunctiva and mucous membrane (anaemia)*
- *Evidence of shock (tachycardia, decreased BP)*
- *Abnormal form of the abdomen*
- *Abdominal distension with presence of free peritoneal fluid*
- *Tender abdomen*
- *Fetal parts easily palpable under the skin of the abdomen (fetus out of the uterus cavity)*
- *Dislodged presenting part*
- *No fetal heart detected*

b) List at least 5 possible causes of uterine rupture (5 marks)

1. *Shoulder dystocia*
2. *Forceps delivery*
3. *Internal podalic version*
4. *Manual removal of placenta*
5. *Previous uterine scar*
6. *Obstructed labour*
7. *High parity*
8. *Hydrocephalus*
9. *Gestational diabetes leading to macrosomia*

c) State the definitive treatment of uterine rupture (5 marks)

- ❖ *The definitive treatment is laparotomy as shown below after delivery of fetus*
- ❖ *And administration of prophylaxis antibiotics*

Figure 10: Management of Uterine Rupture during laparatomy

d) State at least 10 complications of uterine rupture (10 marks)

1) Shock
2) Haemorrhage
3) Intrauterine fetal death
4) Sepsis
5) Maternal anaemia
6) Infertility
7) Fetal death
8) Fistulas
9) Maternal death
10) Increased need for emergency Caesarean section
11) Sheehan's syndrome

D.

In a tabular form list the different types of pelvises, match them with the rational groups/ gender associated with them (10 marks)

Type of pelvis	*Rational Groups/ Gender Associated*
Gynaecoid Pelvis	*It has an almost round brim and is the ideal female pelvis. Permits passage of an average sized baby with the least amount of trauma to the mother. The pelvic cavity (the inside of the pelvis) is usually shallow, with straight side walls and with the ischial spines not so prominent as to cause a problem as the baby moves through.*
Android Pelvis	*Heart shaped brim and is quite narrow in front. This type likely to occur in tall women with narrow hips. Also found in African women. Pelvic cavity and outlet is often narrow, straight and long. Ischial spines are prominent.* *Women with this shape pelvis may have babies that lie with their backs against their mothers' backs and may experience longer labours. It is important that these women take an active role during their labour and need to squat and move around as much as possible.*
Anthropoid Pelvis	*It has an oval brim and a slightly narrow pelvic cavity. The outlet is large, although some of the other diameters may be reduced. If the baby engages in the pelvis in an anterior position, labour would be expected to be straightforward in most cases. The diameters of inlet favors the engagement of fetal head in occiput-posterior position that may slow down the progress of labor.*
Platypelloid pelvis	*It has a kidney-shaped brim and the pelvic cavity is usually shallow and may be narrow in the antero-posterior (front to back) diameter. The outlet is usually roomy. During labour the baby may have difficulty entering the pelvis, but once in, there should be no further difficulty.*

TERM 3 CAT 6 23RD AUGUST, 2013

Total Marks Out of 80

A 26 year old nulliparous woman presents with acute onset of lower abdominal pain.

---

i. State at least 5 differential diagnosis of this patient (10 marks)

ii. If this patient had 7 week history of amenorrhoea

a) What is the most likely diagnosis (5 marks)

b) What additional history would you wish to elicit from this patient (5 marks)

c) What clinical signs might this patient present with (10 marks)

d) State with reason the relevant investigations in this patient and their likely outcome (5 marks)

e) In the process of performing a bimanual pelvic examination of this patient, she develops vascular collapse and manifests with sweating and lapses into a stupor. What diagnosis? And what is the immediate course of action? (10 marks)

f) What are the predisposing factor to this disease entity and describe the pathophysiologic basis of each (15 marks)

g) List the likely sites of involvement of this disease? (5 marks)

h) State the definitive management approach (10 marks)

i) What is the progress/ long term complications/ sequelae of this condition (5 marks)

CAT 2 2013

Total Marks Out of 100

A 22 year old para 0+ 0 is admitted through the A& E with severe pre eclampsia on 28th Jan 2012 and not in labour. Her LMP was 21st May, 2011. She had previously ANC in her only visit at 20 weeks and everything was normal.

a)

I) When is her EDD? (2.5 marks)

- *EDD: 28TH February, 2012*

II) What was her gestation at time of admission? (2.5 marks)

✓ *36weeks (36/40)*

b)

I) Define the term preeclampsia (2.5 marks)

φ *This is new onset of hypertension, a sustained raised BP of more than 140/ 90mmHg on more than one occasion with large amounts of protein in urine (proteinuria) in a previously normotensive woman.*

II) List risk factors for preeclampsia (17.5 marks)

- *Nulliparity*
- *Extremity of age <20 and >35years*
- *African race*
- *Family history*
- *Chronic hypertension/ pre-existing hypertension*
- *Chronic renal disease*
- *Antiphospolipid syndrome*
- *Diabetes mellitus*
- *Multiple gestation*
- *Obesity*
- *Placenta praevia/ abruption*

III) This condition is usually symptomless but what symptoms would have precipitated her to go to hospital (12.5 marks)

⇒ *Visual complaints*
⇒ *Headache especially frontal*
⇒ *Rapid weight gain*
⇒ *Confusion and apprehension*
⇒ *Nausea and vomiting*
⇒ *Swelling of hands and face*
⇒ *Heart burn (Epigastric/ Right upper quadrant)*

IV) What were the physical findings and investigation results that would have put her in category of severe pre- eclampsia (20 marks)

Physical Findings

- *BP ≥ 160/ 110 mmHg*
- *Fundoscopic exam (A-V) Nicking*
- *Right hypochondriac region tenderness on abdominal palpation*
- *Small fundal height for gestation*
- *Generalized oedema especially facial*
- *Hyperreflexia deep tendons*
- *Liver tenderness*
- *Non reassuring fetal status*
- *Heart murmurs*
- *Easy bruisability*
- *Uterine tenderness or vaginal bleeding*

Investigations

Investigations	*Justification*
FBC	*Relatively high Hb due to haemoconcentration* *Thrombocytopaenia* *Anaemia if haemolysis* *Low platelets (HELLP Syndrome)*
Coagulation profile	*Mildly prolonged prothrombin time (PT) and activated partial thromboplastin time (APTT)*
LFTS- AST, GGT, ALT, and Bilirubin	*Abnormal LFTs (increased transaminases)- HELLP Syndrome*
U/E/C	*Check for compromised renal function. Increased urate, urea creatinine*
24 hour urine	*Proteinuria (5g/ 24 hours) also oliguria*
Non stress test	*Assess fetal well being*
Obstetric ultrasound, BPP, RI	*Assess fetal status to determine mode of delivery, estimate fetal weight, confirm gestation*

c) While awaiting admission she got two convulsions

i. What is the terminology for this condition (2.5 marks)

- *Eclampsia*

ii. How would you manage her (30 marks)

- ✓ *Admit patient in the labour ward acute room*
- ✓ *Do a quick assessment of the airway, breathing and circulation*
- ✓ *Start her on oxygen by mask*
- ✓ *Fix 2 large bore IV cannulas*
- ✓ *Draw blood samples from laboratory test*
- ✓ *Control BP – IV hydralazine for control of BP higher than 160/110mmHg, Aldomet/ Nifedipine*
- ✓ *Fix an indwelling catheter for monitoring input/ output*
- ✓ *If the urine output satisfactory from history/ what is emptied on catheterization, start Magnesium sulphate for convulsion prophylaxis*
  - → *MgSO4 – loading dose: 4g IV infusion given over 15 – 20 minutes*
  - → *MgSO4 maintenance dose: 1- 2g/ hour to continue up to 24 hours after delivery or the last convulsion whichever occurs last*

- ✓ *Assess fetal well- being, NST, BPP/RI*
- ✓ *Deliver: Target to deliver within 12 hours: Do a Bishop score, examine mother to determine mode of delivery*
- ✓ *Institute monitoring – BP, and for Magnesium sulphate toxicity), convulsions, RR, Fetal monitoring*
- ✓ *Involve other disciplines as necessary, Paediatrician, renal physician, ICU, Neurosurgeon*

iii. How would monitor the use of medication of choice used to control seizures and how would you remedy adverse outcome from use of that drug? (10 marks)

- Respiratory rate monitoring
- Input/ output
- Deep tendon reflexes
- U/E/Cs

ADEs Reversal: calcium gluconate

Note:

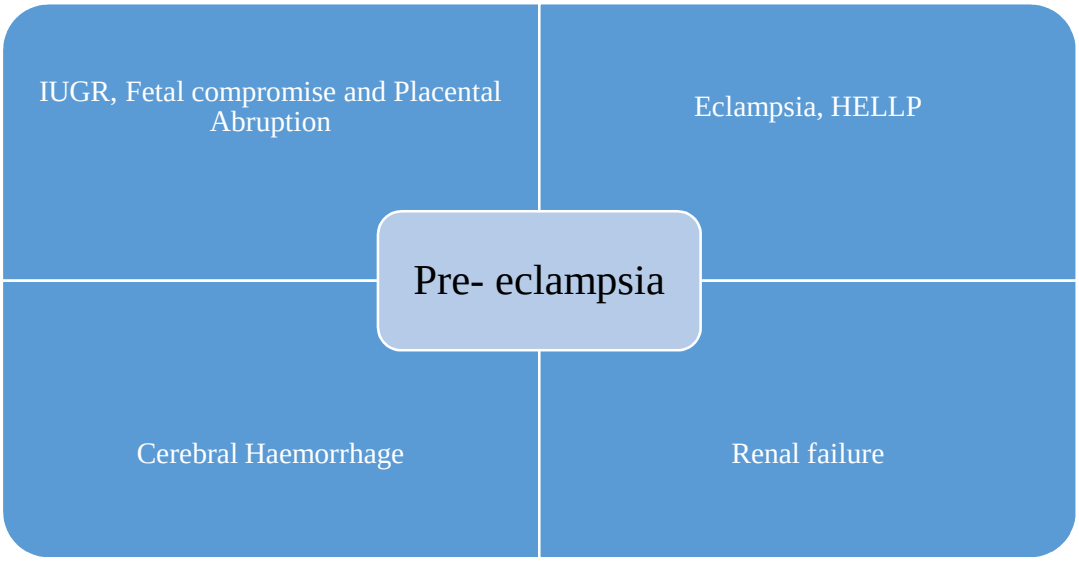

Figure 11: Severe Complications of Pre- eclampsia

CAT (UNKNOWN YEAR, TERM AND DATE)

Total Marks Out of 100

A 65 year old para 5 + 0 presents at the gynae clinic outpatient with history of spotting on and off for one month. She has no history of post- coital bleeding

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a) What investigations would you carry out and specify relevance (20 marks)
b) If pelvic ultrasound shows endometrial hyperplasia, how would you establish the diagnosis (10 marks)
c) Discuss her management (40 marks)
d) Discuss definitive management of cancer of the endometrium confined to the uterus (20 marks)
e) How would you prevent the above condition (10 marks)

TERM 1 TAKE HOME CAT 1 2014

Total Marks Out of 50

1. **Describe the components and various types of pelvic bones (30 marks)**
2. **Discuss the mechanism of labour (20 marks)**

TERM 1 CAT 2014

Total Marks Out of 50

Thandre is a 20 year old who presented with severe headache, blurring of vision, severe upper abdominal pain. On further History she is a primigravida at 32 week of gestation. The midwife reported a BP of 170/115 mmHg.

1. **What is the most likely comprehensive diagnosis? (3 marks)**
2. **The additional history you would obtain from the patient? (Any 7= 7 marks)**
3. **State investigations you would carry out in the patient and why? (14 marks)**
4. **The midwife did a urinalysis and reported there was no proteinuria, what would be your diagnosis based on this? (2 marks)**
5. **What are fetal risks associated with hypertensive disease in pregnancy (Any 5= 5 marks)**
6. **What are maternal risks associated with hypertensive disease in pregnancy (Any 5= 5 marks)**
7. **State the management principles for this patient (14 marks)**

TERM 2 TAKE HOME CAT 1 2015 13TH APRIL, 2015

Total Marks out of 100

1. **Define labour (2 marks)**
2. **Define and summarize the mechanisms of labour (26 marks)**
3. **Regarding maternal pelvis**
   a) **Name the components of bony pelvis, the pelvic joints and state the type of**
   b) **Define the relevant pelvic diameters, their mean dimensions, and how they can be clinically measured in a gynaecoid pelvic (24 marks)**
4. **Regarding fetal parameters**
   a) **Describe the following**
      i. **Lie (2)**
      ii. **Presentation (2)**
      iii. **Position (2)**
   b) **State and describe the important landmarks of the fetal skull (14 marks)**
   c) **Name and state the mean dimensions of the fetal head diameters (8 marks)**