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OBSTETRICS & GYNAECOLOGY PLAB 1 NOTES 2014

SAMSONPLAB ACADEMY

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BEFORE PREGNANCY

PHYSIOLOGY OF PREGNANCY

- Plasma volume is increased by 10 – 15 %
- Total WCC increases
- Platelets decrease in pregnancy
- Clotting factors increase, making pregnancy a hyper-coagulation state.
- Cardiac output increases from 5L to 6.5 L /Min

PREPARING FOR PREGNANCY

1. Folic acid

Give 0.4 mg (low dose) oral - from before conception till 13 week of pregnancy to prevent neural tube defects and cleft lip.

This is offered to all women in the UK as soon as they start preparing to get pregnant.

2. Smoking

Advise to stop smoking because it is associated with preterm labour & perinatal death.

3. Alcohol

Advise to stop it because it is associated with alcohol fetal syndrome (features of which are microcephaly, hypoplastic upper lip, small eyes, low IQ, short palpebral fissure).

4. Spontaneous Miscarriage

Risk of miscarriage is about 9%, for women between 20 – 40 years, 75% for women >45 years of age, after 3 miscarriages the risk of failure of the next pregnancy is 45%.

(If patient has one miscarriage simply reassure).

5. Recurrent spontaneous miscarriage

This is 3 or more consecutive miscarriage.

Anti phospholipid syndrome: suspect if any of the blood tests are positive.

- *Anti-phospholipid Antibodies,*
- *Anti-cardiolipin Antibodies,*
- *Lupus-anticoagulant antibodies*

Most women with these antibodies have miscarriage in the 1st trimester (usually between 10 to 12 weeks).

Treatment if any antibodies are positive:

Aspirin 75 mg daily from the day of positive pregnancy test AND LMWH (enoxaparin/deltaparin) 40mg daily as soon as the fetal heart sound is heard (usually from the 5th week)

6. If Diabetic:

Aim to control blood glucose. If on any other medication for diabetes it should be replaced by insulin and maintained throughout pregnancy (e.g. gliclazide, glibenclamide and metformin must be changed to insulin).

DIAGNOSIS OF PREGNANCY

1. Common Symptoms:

Abdominal discomfort, nausea, vomiting and fatigue.

1. Pregnancy test: Urine pregnancy test

1. Dating of Pregnancy

1. From the LMP (last menstrual period)
2. Dating USS usually done at 12 weeks.

PRE-NATAL DIAGNOSIS

Routine Pre-Natal Screening:

Maternal serum screening is done in 15-18 weeks. It is usually offered to all women.

i) Serum blood test

1. AFP (alpha fetal protein)
2. Beta HCG (human chorionic gonadotrophin)
3. Estriol

Types of tests

1. *Double test* = AFP + HCG
2. *Triple test* = AFP + HCG + Estriol
3. *Quadruple* = AFP + HCG + Estriol + Inhibin

Open neural tube defects (spina bifida)

- Alpha-fetal protein (AFP) - highly increased
- Human Chorionic Gonadotropin (HCG) - Normal
- Estriol - Normal

Trisomy 21 (Down Syndrome)

- AFP - Decreased
- HCG - Increased
- Estriol - Decreased

Trisomy 18 (Edward syndrome)

- AFP - Decreased
- HCG - Decreased
- Estriol - Decreased

ii) Fetal Nuchal Scan

Done at 8 – 12 weeks in which we look for nuchal fold thickness i.e. (accumulation of fluid in the neck of the baby)

Abnormal Values for nuchal fold thickness

- **8-12 weeks:** >2.5mm
- **12-16 weeks:** ≥4mm
- **>16 weeks:** ≥6mm

iii) USG

Done at 18 – 22 weeks (It is an anomaly scan in which we usually look for structure abnormality)

Definitive Tests

1. Pre-Implantation diagnosis
2. Chorionic villus sampling
3. Amniocentesis

Indications for Definitive Tests:

- Age > 35years
- Prior child with neural tube defect / chromosome defect
- Chromosomal abnormality in either of the parents
- Family history of abnormality
- Abnormal maternal serum tests
- Teratogen exposure
- Abnormal nuchal fold thickness
- Abnormal fetal structure survey (anomaly scan usually done at 12 weeks)

i. Pre-implantation genetic diagnosis

- Pre-implantation genetic diagnosis (PGD) is available to couples that are at risk of having a child with a specific genetic or chromosome disorder, such as cystic fibrosis, sickle cell disease or Huntington's disease etc.
- Fertilisation is done in the laboratory. The embryos are tested for genetic abnormalities, 1 or 2 unaffected embryos are implanted into the uterus.

ii. Chorionic villous sampling (CVS)

This is done at 10- 13 weeks)

It is used if the screening test suggests aneuploidy (trisomies, cystic fibrosis, thalassemia, sickle cell disease). Other indications as above.

Advantage: It is done early in pregnancy therefore it enables early termination of pregnancy if the woman decides not to continue with the pregnancy.

Disadvantage: It has 1% risk of miscarriage and risk of transmitting infections like HIV and hepatitis to the child.

iii. Amniocentesis

This is done at 15-18 weeks

Indications

- Screening test suggests aneuploidy
- Or it can be done for enzyme assays looking for inborn error metabolism (G6PD)
- DNA analysis for Cystic Fibrosis and Thalassemia
- Diagnosis of fetal infection (Cytomegalovirus, Toxoplasmosis)

Advantage Carries low risk of miscarriage 0.1%

Disadvantage Late identification of the affected fetus leads to late termination.

ANTE-NATAL CARE

Consist of 1st, 2nd and 3rd trimester visits.
Antenatal care starts once the pregnancy is confirmed.

Routine tests (these tests are offered to all women in the UK)

- FBC
- Blood Group
- Antibody Screen (ABO & Rh) to assess the risk of rhesus incompatibility
- Routine infection screen (rubella, syphilis, hepatitis, HIV)

Specific blood tests:

- Afro-Caribbean origin = sickle cell test
- Screening for Thalassaemia (Cyprus, Eastern Mediterranean, Middle-East, South-East Asia, Indian subcontinent).

PREGNANCY**FIRST TRIMESTER COMPLICATIONS**

a) Hyper-emesis Gravidarum: Excessive vomiting or severe morning sickness 1st Trimester

- Vomiting, can cause weight loss
- Muscle wasting
- Dehydration
- Inability to swallow saliva
- Thirst
- Tired due to dehydration

Investigations

U&E (Na, Urea and Creatinine will be increased
LFT, FBC, USG to exclude multiple pregnancy & molar pregnancy .

Treatment

- 1) Admit + IV fluids (if cannot tolerate oral fluids) + check blood + keep NBM for 24 hrs then introduce some light diet.
- 2) Antiemetic eg. IM Cyclizine, metoclopramide, prochlorperazine, promethazine, chlorpromazine, domperidone and ondansetron
- 3) Thiamine should be prescribed routinely either orally or IV
- 4) If vomiting doesn't stop with antiemetics then give steroids.

b) Recurrent Miscarriages: This is 3 or more consecutive miscarriage

Causes**1. Anti-Phospholipid syndrome****Treatment for anti phospholipid syndrome:**

- Aspirin 75 mg from day of +ve pregnancy test
- LMWH like enoxaparin as soon as fetal heart sound heard or from 5 weeks.

2. Genetic causes like chromosome translocation or Fetal Chromosomal Abnormality

Treatment if family Hx. positive: Refer for genetic test and counseling

3. **Fibroids:** Common in Afro-Caribbean women. It can be so big that it can distort the uterine and a myomectomy may be needed.
4. **Thrombophilia** is inherited and causes recurrent miscarriage. Rx is with LMWH (enoxaparin). Patient usually presents with thrombosis, DVT and PE.
5. **Uterine abnormalities** e.g. that of uterine septum usually causes miscarriages in the 2nd trimester.
6. **Infection** like bacterial vaginosis
7. **Endocrine causes** like PCOS

c) Infection**Group B Streptococcal infection (GBS)**

- Asymptomatic in pregnant women.
- Diagnosis is culture from endocervical swab. If that option is not available then choose lower vaginal swab, if that is not available choose high vaginal swab or perianal swab
- Up to 70% of all children born from infected GBS mothers are also colonized at delivery but only 1% develop infection
- GBS can cause Pneumonia, Septicaemia , Meningitis

Prevention: Antibiotics are given to mothers during delivery if they are colonized with GBS or if mothers have previous Hx. of GBS infection

Treatments: Intravenous Benzyl penicillin

a. Abortion (Termination of pregnancy)

Under UK laws no one has to have abortion and no one has to do one, unless there are medical or social reasons like risk to mother's life if the pregnancy continues.

Methods of abortion:

- < 7 wks – medical
- 7-15wks – medical or surgical
- >15 wks – medical

Medical Treatment

- **Mifepristone orally and then gemeprost per vagina 36-48 hours later**

OR

- **Mifepristone orally followed by misoprostol per vagina 36-48 hours later**

NB. Add second medication only if abortion not completed

Surgical Treatment is by D&C (dilatation and curettage)**e) Bleeding in 1st trimester of pregnancy**

Commonly associated with

1. Miscarriage
2. Ectopic pregnancy
3. Gestational trophoblastic disease

Miscarriage: This is a spontaneous abortion. It is defined as expulsion or removal of the embryo or fetus at a stage of pregnancy when it is incapable of independent survival.

NB: This is loss of pregnancy BEFORE 24 weeks (AFTER 24 weeks it is called STILL BIRTH)

Majority of miscarriages occur between 10-12 weeks

Management:

- **Send to early pregnancy assessment unit (EPAU)**
 - **Transvaginal Ultrasound scan**
 - **Serum HCG**
 - **Anti D prophylaxis**
1. **Non-sensitised with rhesus –ve factor and <12 weeks.**
 2. **All women >12 weeks gestation who are bleeding**
 3. **If any medical or surgical intervention has been used.**

TYPES OF MISCARRIAGE**i) Threatened miscarriage**

- Bleeding per vagina
- With or without abdominal pain
- **Closed cervical os**
- USS shows intrauterine gestation sac, fetal poles, fetal heart activity

Management: give anti D if > 12 weeks gestation or if having heavy bleeding.

ii) Complete abortion

- Bleeding per vaginal
- Abdominal pain
- Closed cervix
- USS shows empty uterus
- Endometrial thickening < 15 mm

Management: Anti-D if >12 weeks or heavy bleeding or if Rh-ve. Monitor serum HCG (human chorionic gonadotropin)

iii) Incomplete abortion

- Bleeding per vaginal - usually there is passing of large clots
- With or without abdominal pain
- Cervix open on PV examination
- USS shows heterogeneous tissue +/- gestational sac
- No fetal activity

Management: Medical or expectant management , Anti D if > 12 weeks

iv) Missed miscarriage (Fetus dies but is retained in the uterus)

- +/- bleeding
- +/- abdominal pain
- +/- loss of pregnancy symptoms
- USS shows no fetal activity (but the fetus is in the uterus)
- No fetal pole, yolk sac
- Os closed

Management: Surgical or medical, Anti – D if > 12 weeks.

v) Inevitable abortion (miscarriage)

- Bleeding per vaginal
- +/- abdominal pain
- Open cervix
- USS shows +/- gestational sac , +/- fetal pole
- Positive fetal heart activity

Management: Surgical/medical/expectant

Most appropriate treatment is expectant management

Give Anti-D if >12 weeks

Expectant Management:

- **Highly effective in incomplete miscarriage**
- **If expectant management is unsuccessful then offer surgery**
- **Warn about pain and increased bleeding**

Medical Management:

- **Prostaglandin analogues**
e.g. misoprostol or gemeprost either P/O or P/V.
- **Bleeding can take up to 3 weeks**
- **24hrs telephone advice should be available admission**

Surgical Management:

- **Evacuation of retained product of conception**
- **Suction and curettage may be used**
- **Indications: Excessive bleeding, inevitable abortion, missed miscarriage, patient request**

Complications of Surgical Management

1. Infection
2. Haemorrhage
3. Uterine perforation
4. Cervical tears
5. Intra uterine adhesions (Asherman's syndrome) This can lead to infertility.

Ectopic Pregnancy: This is implantation of the products of conception outside the uterus

Symptoms

- Amenorrhea of typically **6-8weeks**
- Lower abdominal pain
- Shoulder tip pain
- Adnexal tenderness
- Cervical excitation and tenderness
- PV bleeding

Investigations

- Urine Pregnancy Test
- TV USS scan
- Serum pregnancy test (beta HCG)
- Diagnostic laparoscopy

Management

Depends on clinical picture

1. If patient collapsed / in shock = do pregnancy test. If positive, perform **URGENT LAPAROTOMY**.
 2. If pregnancy test positive with abdominal signs of ectopic pregnancy (shoulder tip pain, pelvic tenderness, cervical excitation test) , do Transvaginal ultrasound scan- If it shows an empty uterus perform **Diagnostic laparoscopy**.
 3. If pregnancy test positive but Uterus empty on TV scan and no abdominal signs **do quantitative serum HCG**
- A.** If serum HCG > 1000 IU following a TV Ultrasound scan or if > 6500 IU following transabdominal scan perform **Diagnostic laparoscopy**

A. If less than the above figures, then **recheck beta HCG in 48hrs.**

- Beta HCG should fall to less than half the baseline value every 48 hours.
- If beta HCG not less than half the baseline value or steady or only slightly reduced perform **Diagnostic laparoscopy.**
- If falling rapidly it means the pregnancy is aborting. If patient is well then only expectant management is needed. Repeat HCG to ensure levels are falling.

NB : IF SYMPTOMS DEVELOP AT ANYTIME THEN DO LAPAROSCOPY

Management:

- Laparoscopy is preferred
- Laparotomy is preferred only if patient is in shock or collapsed

Procedure:

Ectopic in fallopian tube is treated either by Salpingotomy or Salpingectomy.

Gestational Trophoblastic Disease

a. Hydatidiform mole (premalignant)

- Large for dates
- Exaggerated symptoms of pregnancy
- Hyperemesis Gravidarum due to markedly increased beta HCG
- Hyperthyroidism
- "Snowstorm" appearance on ultrasound

Management:

- **Suction curettage is the method of choice of evacuation**
- **Give Anti-D prophylaxis**
- **Monitor Beta HCG after evacuation every 2 weeks until normal. After Beta HCG is normal, monitor monthly for up to 6 months.**
- **Measure Beta HCG 6-8 weeks after any future pregnancy regardless of outcome**

a. Gestational trophoblastic neoplasia/Choriocarcinoma (malignant)

- **Usually** follows a molar pregnancy but can follow a normal pregnancy, ectopic pregnancy or abortion
- Should always be considered when a patient has continued vaginal bleeding after the end of a pregnancy.
- Should also be considered in any woman developing acute respiratory or neurological symptoms after any pregnancy (due to metastasis)

Management: Chemotherapy

2. SECOND TRIMESTER COMPLICATIONS

a. Pregnancy Induced Hypertension (PIH)

- Defined as hypertension in the 2nd trimester of pregnancy in the absence of proteinuria or other markers of pre-eclampsia.
- PIH includes risk of developing pre-eclampsia
- Delivery should be aimed at the time of expected date of delivery.

Treatment: i) Methyldopa ii) Labetalol iii) Nifedipine

a. Pre-Eclampsia

- BP $\geq 140/90$ and 300 mg proteinuria in 24 hour urine collection
- In women who are already hypertensive a rise of BP ≥ 30 mmhg systolic or ≥ 15 mmhg of diastolic is used

Risk factors

- Previous severe or early pre-eclampsia
- Age > 40 years
- Family history of pre-eclampsia
- DM , HTN , Renal diseases

Signs & Symptoms

- Headache
- Visual disturbances
- Epigastric or RUQ pain
- Nausea & vomiting
- Rapid oedema especially of the face
- BP $\geq 140 /90$ or
- In severe pre-eclampsia BP is $\geq 170 /110$

- Proteinuria > 300 mg / 24hrs
- Confusion

Investigation: To rule out HELLP Syndrome

- FBC - Thrombocytopenia & Anaemia
- Coagulation profile – PT & APTT are prolonged
- Biochemistry – increased Urea & Creatinine.

1. Mild to Moderate Pre-Eclampsia

Definition: BP < 160 systolic and < 110 diastolic with significant proteinuria and no maternal complication

Management

- If significant proteinuria then ADMIT {i.e + + proteinuria or > 300 mg proteinuria /24hrs}
- 4 hourly BP
- Cardiotocography to monitor for fetal distress
- Daily urinalysis to check for proteinuria
- 24hr urine collection for proteinuria
- Regular USG assessment every 2 weeks to monitor for fetal retardation
- **IF > 160 SYSTOLIC OR >110 DIASTOLIC START ANTI –HYPERTENSIVE**

2. Severe Pre-Eclampsia

Definition: BP \geq 160 systolic or \geq 110 diastolic in the presence of significant proteinuria (\geq 1g /24hrs or >+ on dipstick) or if maternal complications occur .

Management

- Anti hypertensive to bring BP down to < 160 systolic and < 110 diastolic.
- Hydralazine intravenously is the 1st choice
- Labetalol
- Give MgSO₄ to prevent eclampsia
- CTG & USG to monitor to baby
- If less than 34 weeks gestation give steroids to help production of surfactant.

Complications of Pre-eclampsia

1. Eclampsia
2. HELLP syndrome – Haemolysis, Elevated Liver enzymes , Low Platelets
3. DIC
4. Renal failure
5. Placental abruption

Indications for Immediate Delivery in Pre Eclampsia:

1. Worsening thrombocytopenia or coagulation profile
2. Worsening renal or liver functions
3. HELLP syndrome
4. Eclampsia
5. Fetal distress-as shown by CTG
6. Severe maternal symptoms

A. Eclampsia

Definition: Symptoms of Pre eclampsia + seizure = eclampsia

HELLP syndrome is regarded as a variant of severe pre – eclampsia. **NB. If a woman has a fit a few days after delivery, it is always eclampsia until proven otherwise because eclampsia can happen in the post partum period.**

Management:

- ABC
- MgSO₄ intravenous bolus 4g, then 1 g intravenous infusion for 24 hours and if seizure recurs give intravenous bolus.
- Monitor BP, pulse , RR & O₂ saturation every 15 minutes
- If BP > 160/110 give anti hypertensive (Hydralazine , labetalol , nifedipine)
- CTG to monitor the baby
- Deliver the baby once the patient is stable, delivery is by caesarean section usually but if appropriate then Per Vaginal.

NB. If patient has been given Magnesium sulphate and suffered another fit, repeat Magnesium sulphate.

3. THIRD TRIMESTER COMPLICATIONS

Antepartum Haemorrhage in the 3rd trimester

Common Causes

- i. Placenta Praevia
- ii. Placenta Abruption

i. Placenta Previa

The placenta is inserted wholly or in part into the lower segment of the uterus.

Types:

- **Placenta major** - the placenta completely covers the cervical os
- **Placenta minor** - the placenta is located close to the cervical os or cover it partially

Presentation: Bright red painless bleeding per vagina.

Investigation: Transvaginal USS is more accurate than transabdominal

Management

1. **If major Placenta Praevia and bleeding – Admit patient**
2. **If placenta edge is < 2cm from the internal Os then elective caesarean is the mode of delivery**

ii. Placenta Abruption

This is when the placenta separates from the uterus before delivery of the fetus. Blood accumulates behind the placenta in the uterine cavity or is lost through the cervix.

Presentation: Dark coloured blood per vagina with sudden onset, severe, constant abdominal pain with rigid abdomen.

Investigation: Diagnosis is clinical but ultrasound is done to exclude PP and to check the baby.

Management

1. **Admit**
2. **Check the wellbeing of the baby with cardiotography (CTG) and USS.**
3. **If fetal distress or maternal compromise resuscitate and deliver now (caesarean).**
4. **If no fetal distress deliver by term.**

Distinguishing Placental Abruption from Placental Praevia
Placental abruption

- Shock is out of proportion from visible blood loss
- Constant pain
- Tender tense uterus
- Fetal heart sounds absent/distressed
- Coagulation problems like DIC

Placenta Praevia

- Shock in proportion with visible blood loss
- No pain
- Non tender uterus
- Normal fetal heart sounds
- Coagulation problems are rare

MEDICAL PROBLEMS IN PREGNANCY

a. Diabetes

- Avoid unplanned pregnancy
- Monitor Hba_{1c} < 6.1% Glycosalted Hb is an indication of the general control of diabetes.
- Give folic acid 0.4mg po od.
- Stop all oral hypoglycaemic medications and use insulin
- Stop Statin, ACE-i, A2A
- Use other anti HTN- e.g. Methyl-dopa.
- Glucosuria in pregnancy is common and it does not mean diabetes.

Complications of Diabetes in Pregnancy

- Hypoglycemia of the newborn.
- Stillbirth
- Large Baby
- Intrauterine Death

b. Epilepsy

- Use anti – convulsant that controls seizures
- Give high dose folic acid 5 mg/day
- Give Vitamin K from 36 weeks

Complications

- Fetal Valproate syndrome is associated with major systemic anomaly
- Neural tube defects are common with Valproate
- Neural developmental delay.
- Anemia = Hb less than 11.5 Rx. FeSO₄ 200 mg once a day.
- Thyroid Disease
- SLE= Common in Pregnancy and post partum

a. Thyroid disease in pregnancy

- **Hypothyroidism is common, especially in the post partum period due to Sheehan's syndrome. Sheehan's syndrome is pituitary infarction due to excessive post partum bleeding.**
- **Grave's Disease** improves in pregnancy.
- **Treatment: Propylthiouracil is the first choice anti-thyroid medication in pregnancy and breastfeeding instead of carbimazole.**

d. Anaemia in Pregnancy: Hb <11.5 g/dl

Common problem, occurs in 1/3 of women in 3rd trimester.

Causes: 85% caused by Iron deficiency anaemia

Less commonly caused by: Folic acid deficiency, sickle cell disease, thalassemia, B12 deficiency, hemolysis, PNH, leukemia, GI bleed, occult celiac disease

Investigations:

- Hb
- MCV: if <76 most probably due to iron deficiency anaemia. If normal it is typical of anaemia in pregnancy (dilutional anaemia)
- Serum ferritin: 10-50 ug/L needs monitoring, <10 ug/L requires treatment

Management:

- **Routine iron replacement is not recommended in the UK. If given routinely it can cause iron overload and lead to haemochromatosis.**
- **Treat with oral ferrous sulphate if Hb <11.5 g/dl**

e. SLE - common in pregnancy and post partum period. If the patient already has SLE, it usually flares up in pregnancy.

f. Carpal tunnel syndrome - common in pregnancy. Treatment of this condition in pregnancy is usually conservative

LABOUR**There are 3 stages of labour:**

1st Stage: Starts from regular contractions to full dilatation of the cervix i.e. 3cm to 10 cm.

2nd Stage: This is from full dilatation of the cervix to the delivery of the baby i.e. from 10 cm to the birth of the baby.

3rd Stage: From the delivery of the baby to the delivery of Placenta (takes approximately 30 mins).

Indications for Induction of Labour:

- Prolonged pregnancy >42 week.
- Uteroplacental insufficiency
- Intrauterine growth retardation
- Oligohydramnios
- Abnormal CTG
- Pre labour rupture of membranes
- Chorioamnionitis
- Intra- uterine death
- Severe pre – eclampsia/eclampsia after maternal stabilization

Medical Indications for labour Induction

- Severe hypertension
- Uncontrolled DM
- Renal diseases + deterioration of the renal function
- Malignancy

Monitoring in Labour

1. Regular PV examination to monitor the progression of dilatation. It should dilate by 2cm every 4 hours.
2. CTG - To check for fetal distress. If there is fetal distress then do fetal blood sampling.
3. Fetal blood sampling (FBS) - this is ABGs from the scalp of the baby. If it shows hypoxia then do C-section
4. If there is Meconium Stained Liquor, perform CTG to check for fetal distress. And similarly if there is fetal distress, do FBS.
5. BP, Pulse and Temperature to check for chorioamnionitis.

MECONIUM ASPIRATION SYNDROME

This is when the fetus aspirates the meconium which leads to mechanical blocking of the airway. It acts as a chemical irritant and causes Pneumonitis.

Management:

Meconium stained liquor and PROM is associated with high risk of infection therefore it requires immediate induction using erometrine and oxytocin.

PRE-LABOUR RUPTURE OF MEMBRANE (PROM)

This is leakage of the amniotic fluid in the absence of the uterine activity at term (after 37 weeks)

Complications:

- Neonatal infection
- Chorioamnionitis
- Post partum endometritis

Chorioamnionitis:
Symptoms

- Fetal tachycardia
- Maternal tachycardia
- Maternal pyrexia

- Increased WBC
- Tender uterus

Treatment: Metronidazole + amoxicillin

Management of PROM

- **Expectant until 24 hrs**
- **If after 24 hrs labour has not started, then induce labour**
- **If PROM and the mother is GBS positive do immediate induction of labour. Give the mother Benzyl penicillin IV in labour and screen the baby for GBS infection after birth.**
- **PROM+Meconium stained liquor needs immediate induction of labour.**

OBSTETRIC EMERGENCIES

1) Sudden maternal collapse

- There are multiple causes – MI, PE

Management: Use the ABCD approach to manage these types of patients.

2) Cord prolapsed

This is when the umbilical cord protrudes below the presenting part; this may lead to cord compression (lead to hypoxia + cut of blood supply)

Management: Urgent delivery by Caesarian section or instrumental delivery.

3) Shoulder distocia = shoulder Impaction

Defined as any delivery that requires additional obstetric maneuvers in order to deliver the shoulder.

Management: Episiotomy

4) Uterine inversion

Severe symptoms like hemorrhage, shock, mass in the vagina on per vaginal examination

Management: – ABC

Johnson maneuver (push up fundus through the cervix with the palm)

CAESARIAN SECTION

Indications

- If repeat c-section
- Fetal compromise
- Failure to progress in labour
- Eclampsia

NB. Once a caesarian section, almost always a caesarian section.

This means that women who have had one caesarian section are likely to give birth by caesarian section in the future due to increased risk of uterine rupture if vaginal delivery is attempted.

PAIN RELIEF IN LABOUR

- **NB. Usually if a woman is not tolerating pain in labour, she should be given entonox as an initial analgesia**
- **If Entonox is not effective, then offer pethidine IM.**
- **If she is still not tolerating pain, then offer epidural anaesthesia.**

- **Epidural anaesthesia is the most commonly used anaesthesia for C-section**

1) Non-pharmacological

- Education,
- Trusted partner
- Warm bath
- Acupuncture
- Hypnosis
- TENS-Trans Electrical Nerve Stimulation, stimulates central opiate receptors and non – pain fibers

2) Pharmacological

- Entonox** – 50% nitrous oxide + 50% Oxygen. It can be inhaled throughout labour. It is safe for the baby.
- Pethidine** (IM injection) It can be given until 2 hrs before delivery as it can cause respiratory depression of fetus if given < 2 hrs before delivery.
- Diamorphine** – can be used but can cause respiratory depression if given 4hrs from delivery time

- a. **Pudendal Nerve Block** – used for operative vaginal delivery (episiotomy) or instrumental delivery dilated (Episiotomy).

3) Epidural- provides adequate analgesia, it is the most effective type

- Set up only once labour has begun i.e. .cervix 3 cm or more.
- It is appropriate especially for breech & multiple pregnancy, because usually mode of delivery is caesarian section.

Side Effects

- 1) Motor-neuro inhibition, which causes weakness of the lower limbs, making it difficult to walk around during labour.
- 2) Postural Hypotension

Contra- indications to epidural anaesthesia

- Septicaemia
- Infection at the site
- Thrombocytopenia <75
- Coagulopathy
- Allergy to lidocaine
- Severe aortic stenosis

4) Spinal anesthesia

- Enables mother – child bonding earlier
- Little motor blockage , allowing mothers to stand and walk around during labour especially if it's combined with epidural.

Instrumental Delivery

(operative - Forceps/Vacuum -)

Indications

- Delay in 2nd stage of labour
- Prolapsed cord or fetal distress in 2nd stage of labour

Retained Placenta

It's the undelivered placenta within 1 hr of physiological labour or 30 min of active labour

Treatment:

- 1) oxytocin or syntometrin
- 2) Maneuvers - eg. controlled cord traction and uterine Massage
- 3) Manual evacuation of the placenta requires general anaesthesia

Abnormal Placental attachment

- **Placenta accrete** – villa are attached to myometrium
- **Placenta increta** – villi invade into myometrium
- **Placenta percreta** – villi passes through myometrium into serosa membrane, which may cause heavy bleeding in delivery and hysterectomy may be required.

NB. In normal circumstances, the placenta is attached to the endometrium.

POST PARTUM HAEMORRHAGE

Types

- a. **Primary** This is loss of > 500ml of blood in 24hrs
- b. **Secondary** This is excessive loss of blood between 24hrs & 6 weeks

Causes

1. **Uterine Atony** This is due to prolonged labour. The uterus becomes tired and fails to contract after delivery. Failure of the uterus to contract leads to continuous bleeding.

Treatment: Oxytocin

2. **Genital tract trauma** – This usually occurs after episiotomy or any other instrumental delivery.

3. **Infection of the Uterus (Endometritis)** This usually occurs 5-7 after delivery. Presents with fever and PV bleeding.

Treatment: Metronidazole + amoxicillin.

4. **Retained Product of conception** can cause bleeding on its own.

Treatment is D&C (dilatation and curettage)

5. **Coagulation Disorder** like disseminated intravascular coagulopathy (DIC). This usually follows severe bleeding eg. placenta abruption or uterine rupture.

NB. Uterine rupture is common in women with previous caesarean section. There is usually serosanguinous discharge from the scar.

6. **Large Placenta Site** eg. from large babies like in Diabetic mothers, or multiple pregnancies

GYNAECOLOGICAL CONDITIONS

CONTRACEPTION

a. Routine Contraception

- **Barrier method:** Condoms, caps, cervical sponge , spermicide , female condoms.
- **Male condoms** are the most widely used.
- **Natural methods:** These are done by monitoring the fertile and non-fertile days in the menstrual cycle and timing sexual intercourse with non-fertile days.
- **IUCD (Intrauterine Contraceptive Device):** Insert after 4 weeks post partum as long as not pregnant, and 48 hrs after termination of pregnancy (TOP)

Mechanism

- It prevents pregnancy by inhibiting implantation in the uterus.

Complications

- Infection
- Perforation
- Irregular per vaginal bleeding
- Dysmenorrhea
- **Ectopic pregnancy** - risk for ectopic pregnancy is increased because if the pregnancy is not implanted in the uterus, it will be implanted outside the uterus.

Contraindications

- Pregnancy
- Undiagnosed per vaginal bleeding
- Current urinary tract infection
- History of pelvic inflammatory disease
- Large fibroids that make insertion difficult
- Copper allergy

Advantage

Provides long term contraception lasting for up to 3 yrs maximum.

- **COCP:** Combined Oral Contraceptive Pill

Contains **estrogen + progesterone**

Ideally started on 1st day of menstrual period for 21 days followed by 7 pill-free days.

Advantages

- Decrease in menstrual pain and bleeding (can be used for dysmenorrhea and menorrhagia)
- Lower incidence of functional ovarian cysts.
- Decreased risk of ovarian and endometrial cancer.
- Decreased risk of colorectal cancer.
- Improvement in acne vulgaris

Disadvantages: Increases the risk of DVT/PE, ovarian & breast carcinoma), increases blood pressure.

Interactions:

- Affected by enzyme inducing drugs.
- **Enzyme inducing antibiotics** are **rifabutin and rifampicin** and they require extra precautions eg. condoms. Other antibiotics do not reduce the efficacy of COCP so extra precautions are not needed.
- When using enzyme inducing antibiotics, appropriate contraceptive measures are required up to 8 weeks after stopping the enzyme inducing drugs.
- **Enzyme inducing anti-epileptics** are carbamazepine, phenytoin, primidone, topiramate, oxcarbazepine, and phenobarbital
- If taking COCP with enzyme inducing antiepileptics, take an increased dose of COCP but **alternative contraception is the best advice.**
- **Non-enzyme inducing anti-epileptics:** Sodium valproate, lamotrigine, ethosuximide

Contraindications

- Pregnancy
- Smoking >20/day AND above 35 years of age
- History of DVT or PE
- Migraine with aura
- Migraine without aura but above 35 years
- Liver disease
- BMI >39

- **Transdermal Patch** - Contains the same hormones as the COCP. It is changed once a week for three weeks followed by one patch-free week.

Mechanism: Inhibits ovulation

NB. The **transdermal patch is not recommended for use when taking an enzyme inducing anti epileptic medication.**

- **POP**– Progesterone only pill

Disadvantage: Less effective compared to COCP, can be used if COCP is contra-indicated.

Advantage: Does not cause DVT / PE.

NB. Not affected by any type of antibiotics.

POP is not recommended for use when taking an enzyme inducing anti epileptic medication.

- **Depo- provera**– Injectable progesterone only contraception which is injected every 3 months.

Advantages

- Very effective
- Used in women unwilling or unable to take the pill or unable due to various reasons e.g. – mental retardation

NB. Not affected by enzyme inducers like certain anti-epileptics.

- **Contraceptive Implant** - Progesterone only implant, it is implanted under upper arm. It lasts for 3 years.

Disadvantages: menstrual disturbances and weight gain

- **Mirena Coil** - also called the IntraUterine System (IUS)
 - It is a Levonorgestrel containing coil which is inserted into the uterus. It lasts for 5 years with failure rate of 1-2%.
- IUS is the preferred contraception if the woman needs long term contraception.
- It is also beneficial in women with menorrhagia who desire long term contraception.
- May be used to treat menorrhagia in women with fibroids unless the fibroids are very big and prevent insertion of the device.
- **Female laparoscopic sterilization** – Regarded as a permanent procedure because it is difficult to reverse. It is done by occluding the fallopian tube by clips or by ligation and tie. Failure rate is 1 in 200.
- **Male sterilization** – easier, quicker, safer day case procedure, with less complications. The procedure is done under local anaesthesia.

b. EMERGENCY CONTRACEPTION

1. **IUCD**= COPPER COIL or simply Coil, can be used for up to 5 days (120 hours) after un-protected sex. It provides long-term contraception as well.
1. **Emergency Contraception Pill (Morning pill)** (Levonorgestrel) can be used up to 3 days (72 hours). Next period may be late or early.

NB. If taking emergency contraception with enzyme inducing antiepileptics, the dose of emergency contraception must be doubled.

NB. All hormonal contraceptive pills prevent pregnancy by inhibiting ovulation.

All IUCDs including Mirena coil prevent implantation of fertilised egg in the uterus there there is a risk of ectopic pregnancy.

MENOPAUSE

- Average age is 52 years but is usually between 45-55 years.
- This is permanent cessation of menstruation for a minimum of 12 months with no other cause of amenorrhea
- **Peri-menopause** is a period beginning with the first clinical signs and endocrine signs of the approaching menopause. There are usually irregular periods around this time.
- **Pre-menopause** is 1-2 yrs immediately before the menopause.
- **Post – menopause** period is from the last period.
- **Climacteric** is the phase compassing the transition from the reproductive state to non-reproductive state.

Complications of Menopause:

Short term:

- Vasomotor symptoms (hot flushes , night sweats , start before menopause , irritability)

- Treatment for hot flushes is hormonal replacement therapy (HRT)
- There are two types of hormonal replacement therapy: Estrogen only HRT and combined HRT.
- Estrogen only HRT is suitable for women who had hysterectomy.
- Combined HRT contains progesterone and estrogen and is suitable for women with a uterus. This is because progesterone protects proliferation of the endometrium which may lead endometrial carcinoma. It therefore protects against endometrial carcinoma.
- Sexual dysfunction (vaginal dryness, atrophic vaginitis leading to dyspareunia. Treat with local oestrogen.
- Psychological dysfunction: depression , anxiety , mood swings, irritability , lack of energy

Long term:

- Osteoporosis
- Cardiovascular disease
- Urogenital atrophy- Atrophic Vaginitis

OSTEOPOROSIS

- This is a progressive systemic skeletal disease characterised by reduced bone mass/density.
- This leads to an increased bone fragility and susceptibility to fractures.

Risk factors for Osteoporosis

- Ankylosing spondylitis
- Family hx of hip fracture
- Low Ca intake eg.: lactose intolerance
- Prolonged steroid use
- Rheumatoid arthritis
- Malabsorption
- Hyperthyroidism
- Hyperparathyroidism
- Alcohol abuse
- Early menopause (<45yrs, low BMI)
- Premature ovarian failure (<40yrs causes of which are chemotherapy and ovary removal)

Investigations:**Bone Mineral Density****(Measured using DEXA - Dual Energy X-ray Absorptiometry)**

Normal: +1 to -1

Osteopaenia: -1 to -2.5

Osteoporosis: less than -2.5

Management :

- Prescribe Calcium & vitamin D supplements
- **Biphosphonates (Alendronic acid)** are the 1st choice treatment as well as for the prevention of osteoporosis.
- Risedronates and etidronates are indicated if Alendronic acid is CI, Raloxifen is not recommended for treating post-menopausal females for primary prevention of osteoporosis unless increased risk of breast & endometrial cancer.

URINARY INCONTINENCE**1. Stress Incontinence**

Leakage of urine while coughing, sneezing, laughing and running.

Treatment:

- Weight loss
- Physiotherapy
- Duloxetine
- Bladder neck surgery

1. Urge Incontinence

Detrusor muscle instability, presents with sudden desire to urinate.

Treatment:

Avoid caffeine. Bladder training and pelvic floor exercises are good.

1. Mixed incontinence (Urge and Stress)

Treatment: Oxybutamine or Toterodine can be tried.
If there is enuresis then Desmopressin can be tried.

1. True incontinence

This is due to fistula formation. There is constant leaking of urine. Usually there is history of recent surgery.

Urometry/Urodynamics Assessment/Urodynamic Studies

1. Filling urodynamic studies

- During this process the bladder is filled with normal saline and at the same time, the bladder and abdominal pressures are measured simultaneously
- If the patient has incontinence of urine during filling of the bladder, you check the 2 pressures.
- If the bladder pressure increased but the abdominal pressure was normal, it means the bladder contracted which lead to the increased bladder pressure. This confirms the diagnosis of **urge incontinence**.
- If both the bladder pressure and the abdominal pressure increase simultaneously, it suggests **stress incontinence**.

2. Voiding urodynamics studies

- During this phase, the woman is asked to urinate and the speed of urination and residual urine is measured.
- If the speed is <15 ml/sec this is abnormal.
- Residual urine of >150 ml is abnormal.

PROLAPSE

1. **Uterine prolapse** - This is usually in an elderly woman. There is a dragging sensation or feeling of pressure in the perineum or something is coming down.

Treatment: Surgical or conservative if not possible to do surgery due to comorbidities eg. severe heart failure.

1. **Urethrocele** - This is prolapse of the lower anterior vaginal wall involving the urethra into vagina
1. **Cystocele** - This is prolapse of the upper anterior vaginal wall involving the bladder into the vagina
1. **Enterocoele** - This is prolapse of the upper posterior wall of the vagina along with the small intestine
1. **Rectocele** - This is prolapse of the lower posterior vaginal wall along with rectum

CERVICAL CARCINOMA

- Cervical Intraepithelial Neoplasia CIN is a precursor of cervical cancer
- Columnar cells change into Squamous cells, this is termed as Columnar Metaplasia
- Caused by Human Papilloma Virus (HPV)

Risk Factors

- Persistent HPV
- Multiple partners
- Smoking
- Immunocompromised Eg HIV
- Use of COCP

N.B. Vaccination against HPV helps to reduce incidence of cervical carcinoma.

Cervical Smear

Routine screening is done using cervical smear every 3 years between ages 25-50, then every 5 years until aged 65.

- If **Normal smear**: Repeat every 3 years for women between 25 to 50 or every 5 years for women aged 50-65.

- **Inflammation**: Repeat smear after 6 months.

Do Colposcopy after 3 abnormal results

- **Atypical Cells**: Repeat smear after 4 months.

Do Colposcopy after 2 abnormal results

- **Mild/moderate/severe Dyskariosis**: Refer for Colposcopy.
- Mild Dyskariosis= CIN 1 (30%)
- Moderate Dyskariosis= CIN 2 (50-70%)
- Severe Dyskariosis= CIN 3 (90%)
- If **invasive**, suspect carcinoma à Urgent Colposcopy
- If **abnormal glandular cells** à Urgent Colposcopy

When to refer for Colposcopy:

- Any smear showing mild, moderate, severe Dyskariosis
- Any suggestion of malignancy
- Glandular abnormal cells
- 3 consecutive inflammatory smears
- 2 consecutive atypical smear
- 3 consecutive borderline smear
- 3 consecutive inadequate smear
- Post coital bleeding.

Management of CIN

Large loop excision of transformation zone.

Symptoms of Cervical Cancer:

- Weight loss, anaemia, tiredness
- Post-coital bleeding is alarming. It means cervical cancer until proven otherwise.
- Post-menopausal bleed

Investigation: Colposcopy and Biopsy

Stages of Cervical Cancer:

- < 4cm diam. = 1
- Parametrial involved = 2
- Extension to pelvic wall = 3
- Distant Mets. = 4

Treatment for Cervical Cancer:

- **1st stage = local excision +/- radiotherapy +/- hysterectomy**
- **From 2nd stage onwards = radiotherapy +/- chemotherapy**

VAGINAL DISCHARGE**Classification**

- **Infective (Non-sexually transmitted)**
 - **Candida**
 - **Bacterial vaginosis**
- **Infective (Sexually transmitted)**
 - **Chlamydia trachomatis**
 - **Neisseria gonorrhoeae**
 - **Trichomonas vaginalis**
 - **Herpes simplex virus**
- **Non-Infective**
 - **Foreign bodies**
 - **Cervical polyps and ectopy**
 - **Genital tract malignancy**
 - **Fistula**
 - **Allergy**

A. Infective (Non-sexually transmitted)**1. Vaginal Candida/Thrush**

Causes by *Candida albicans* in 70-90%

Risk factors:

- Estrogen exposure (reproductive years, pregnancy)
- Recent use of antibiotics
- Especially seen in immunocompromised patients
- Patients with DM

Signs & Symptoms:

- White, thick, curdy, **itchy** discharge with no odour.
- Soreness, superficial dyspareunia and dysuria
- Vulva may appear normal or may have vulval erythema, oedema, fissuring and satellite lesions

Investigation: Endocervical swab if not given then high vaginal swab. Vaginal pH ≤ 4.5 .

Treatment: Vaginal and oral azoles are equally effective

Topical: Clotrimazole topical cream

Oral: Fluconazole capsule

NB. Use only topical antifungals in pregnant women. ORAL ANTIFUNGALS SHOULD BE AVOIDED.

2. Bacterial Vaginosis (mixed growth)

Caused by over growth of *Gardnerella vaginalis*, one of the organisms that is part of the normal flora of the vagina.

Signs & Symptoms:

- Thin offensive/fishy smelling discharge.
- No itch
- No vulval inflammation
- Discharge may coat the vagina and vestibule

Investigation: Endocervical swab if not given then high vaginal swab. Clue cells on microscopy. Vaginal pH > 4.5

Treatment:

- **Oral Metronidazole is first line. Can be used in pregnancy.**
- **Clindamycin if there are side effects with Metronidazole (metallic taste, GI symptoms)**

B. Infective (Sexually transmitted)**1. Chlamydia (STI)**

Most common bacterial STI in the UK. Asymptomatic in 70% of women.

> 1 week incubation period after unprotected sexual intercourse, can be up to 3 weeks.

Signs & Symptoms

- Mucoïd purulent discharge
- Lower abdominal pain
- Abnormal bleeding (postcoital or intermenstrual) due to cervicitis or endometritis
- Dyspareunia or dysuria

Investigation: Endocervical swab / urethral swab

Treatment: Doxycycline. Use erythromycin in pregnancy.

Complications:

- Pelvic inflammatory disease (PID)
- Perihepatitis
- Reiter's Syndrome (Arthritis, urethritis, conjunctivitis)

2. Trichomonas Vaginitis (STI)**Signs & Symptoms:**

- Scanty to profuse, offensive smelling, frothy, itchy discharge
- Dysuria, lower abdominal pain
- Inflamed vulva
- Strawberry cervix
-

Investigation – Endocervical smear. Vaginal pH >4.5

Treatment: Metronidazole. Can be used in pregnancy.

3. Gonococcal infection

Asymptomatic in up to 50%. < 1week incubation period. Symptoms will come few days after un protected sexual intercourse

Signs & Symptoms

- Increased or purulent vaginal discharge
- Lower abdominal pain
- Rare cause of heavy menstrual, postcoital or intermenstrual bleeding due to cervicitis or endometritis

Treatment:

- **Ciprofloxacin if uncomplicated.**
- **Ceftriaxone or cefotaxime if complicated.**

4. Pelvic Inflammatory disease – partner might have urethritis, hx of change of sexual partners. Usually the cause is PID. Common causatives agents are Gonococcus and Chlamydia therefore it is important that the broad spectrum antibiotics cover those 2 microorganism.

Investigation: Endocervical swab is the investigation of choice. High vaginal swab can also be done.

Treatment: Broad spectrum antibiotics

- **Metronidazole + Doxycycline + Ceftriaxone**
- **Metronidazole + Ofloxacin**

5. Human Simplex Virus(HSV2) –

Occasionally presents with discharge

Signs & Symptoms

- Multiple painful vesicles and ulcers on vulva
- History of flu like illness

C. Non-infective**1. Cervical Ectropion or Erosion**

Can be a normal finding in women of reproductive age. Common in pregnancy and in women using COCP. There is increased physiologic discharge, and the cervix bleeds easily on touch.

Investigation: Speculum examination.

Treatment: If symptomatic use acidic gel, silver nitrate cauterization, laser or cold coagulation

2. Foreign Body

Blood stained discharge with history of use of ring pessary, tampons, or IUCD. It is also common in young girls due to hygiene issues.

Investigation = speculum examination.

For IUCD do USS. If it not visible on ultrasound then perform pelvic x-ray. Since it is metal it will be visible.

Treatment: Removal of the foreign body

3. Cervical Carcinoma

Usually there is foul smelling blood stained discharge

Investigation: Colposcopy & biopsy

4. Fistula

Causes:

- **Inflammatory conditions** - usually diverticulitis and crohn's disease (inflammatory bowel disease)
- **Malignancy** - usually rectal carcinoma
- **Iatrogenic** - post surgery and radiotherapy

Types of fistulas:

- **Enterovesical** - e.g. colovesical usually presents with pneumaturia (gas in the urine) and faecaluria (fecal matter in the urine)
- **Enterovaginal** - eg colovaginal. Passage of stool or flatus via the vagina is pathognomonic of a colovaginal fistula. It may also present with frequent vaginal infections or copious vaginal discharge.

NB. Symptoms of the chronic disease causing the fistula may be present. These symptoms will help to determine the cause of the fistula.

VULVAR ULCERS**a. Herpes simplex**

Caused by HSV Type 2

Acquired from infectious secretions on oral, genital, or anal mucosal surfaces during sexual intercourse and contact with lesions from other anatomical sites, eg eyes, skin or herpetic whitlow.

Clinical features:

- Multiple painful ulcers
- Systemic symptoms like headache, joint pains, generally feeling unwell (this differentiates it from chancroid)

a. Chancroid

Caused by Hemophilus ducreyi

Clinical features:

- Usually multiple ulcers
- Not indurated (soft core)
- Painful inguinal lymphadenopathy
- No systemic symptoms

Investigation: Swab from ulcer

Treatment: Azithromycin or ceftriaxone

a. Granuloma inguinale (Donovanosis)

Caused by Klebsiella granulomatis

Signs & Symptoms

- Beefy red ulcer

Investigations: Donovan bodies (intracellular inclusions in macrophages)

Treatment:

Doxycycline or Co-trimoxazole (Trimethoprim/sulfamethoxazole)

a. Lymphogranuloma venereum (LGV)

Caused by Chlamydia trachomatis. Common in Africa, India, South America, Caribbean.

Clinical Features:

- Painless papule or shallow ulcer

- Arthritis
- Buboos (grossly enlarged tender nodes in inguinal/pelvic/perirectal nodes)
- Groove sign - separation of the enlarged inguinal and femoral lymph nodes by the inguinal ligament

Treatment: Doxycycline

a. Syphilis

Caused by Treponema pallidum which is transmitted during sex.

Primary syphilis - very infectious transient hard ulcer (chancres). Typically it is a single ulcer.

Secondary syphilis – 6 weeks-6 months after infection. Usually present with fever, lymphadenopathy, and rash on trunk, face, hands, and soles.

Tertiary syphilis – develops 2 years or more after initial infection. Forms granulomas in the skin, mucous, bones, joints and visceral organs.

Quaternary syphilis

1. Vascular syphilis: Affects ascending aorta causing aneurysm and aortic regurgitation
2. Neurosyphilis: Cranial nerve palsy, stroke, dementia

Investigations: Treponema specific antibodies / Venereal disease research lab slide test (VDRL)

Treatment: Benzylpenicillin or doxycycline

For neurosyphilis: Ceftriaxone

NB. Any anogenital ulcer or sore is syphilis until proven otherwise.

Malignancies

Elderly patients with vulvar ulcer is always vulvar carcinoma until proven otherwise.

VULVAR LESIONS

1. **Allergy** - worse after contact with eg : nylon , underwear , soap , chemicals.
1. **Lichen sclerosis** – white, flat, shiny vulva ; intense itch , bruised red purpura or erosions. Usually after middle age.
1. **Leukoplakia** – itchy white vulval patches due to skin thickening and hypertrophy
1. **Cancer of vulva** – indurated ulcer or any ulcer on the vulva.
1. **HSV**- Vesicles, very painful! Usually there are multiple ulcers with vesicles

Hyperprolactinaemia

Causes

- Prolactinoma (commonest cause)
- Antipsychotic medications eg. Haloperidol
- Pregnancy
- Head injury
- Hypothyroidism
- PCOS
- Cushing's

Signs & Symptoms

- Galactorrhea
- Amenorrhea/Oligomenorrhea
- Infertility
- Reduced libido
- Weight gain
- Dry vagina
- Facial hair

Prolactinoma

This is an adenoma in the pituitary gland.

Signs & Symptoms:

- **Same symptoms as above**
- Bumping into objects (bilateral hemianopia due to compression of the tumour on the Optic Chiasma)
- Headache

Investigation: 1) serum prolactin
2) MRI pituitary (for prolactinoma)

Treatment: Surgery (for prolactinoma) otherwise treat underlying cause

MENORRHAGIA

1. Dysfunctional Uterine Bleeding – DUB – heavy irregular bleeding in the absence of pathology.

Treatment:

- 1st Line: Mirena coil - If long term contraception desired otherwise offer antifibrinolytics eg. tranexamic acid
- 2nd line: Tranexamic acid
- 3rd Line: COCP (if contraception required), injectable progesterone
- 4th line: Endometrial or hysterectomy (If no desire to conceive)

2. Fibroids (Uterine Myoma, Fibroma, Leiomyoma)

Common in Afro-caribbean females

Majority are asymptomatic and do not require treatment

Responsive to oestrogen therefore it may increase in size during pregnancy, may decrease in size after menopause

Signs & Symptoms:

- Pelvic pain (compression onto adjacent structures)
- Infertility/ecurrent miscarriage
- Pelvic mass
- Menorrhagia

Investigation: USG

Management: Mirena coil is the first choice if the fibroid does not cause distortion of the uterus. Big fibroids make it difficult to insert.

1. If <3cm

• Trial of **pharmacologic treatment** first eg. Tranexamic acid

↓

• If that fails and uterus no bigger than 10-week pregnancy do **endometrial ablation**

↓

• If that fails do **hysterectomy**.

1. If >3cm and desires to retain uterus, and/or wants to avoid surgery do uterine artery embolisation (UAE)

1. If >3cm and desires to retain uterus do hysteroscopic myomectomy or myomectomy

3. Endometrial Carcinoma

Risk Factors:

- HRT
- Early menarche
- Late menopause
- Nulliparity

Signs & Symptoms:

- Per vaginal bleed
- weight loss
- Anaemia
- Tiredness
- Weakness
- Abdominal mass

NB. POST-MENOPAUSAL BLEEDING IS ALWAYS ENDOMETRIAL CANCER UNTIL PROVEN OTHERWISE

Investigation:

- Transvaginal Ultrasound
- Hysteroscopy and biopsy
- Endometrial sampling

Treatment:

Localized: Hysterectomy

Locally invasive or with metastasis: Chemo/Radiotherapy

PRIMARY DYSMENORRHEA

These are painful periods in the absence of any structural abnormalities.

Treatment – Mefenamic Acid (NSAIDS). Paracetamol is usually not effective.

POLYCYSTIC OVARIAN SYNDROME

Two of the three following criteria are diagnostic (Rotterdam criteria)

- Polycystic ovaries (12 or more peripheral follicles)
- Oligo-ovulation or anovulation
- Clinical and/or biochemical signs of hyperandrogenism

Signs & Symptoms

- Oligomenorrhoea (defined as <9 periods per year)
- Infertility
- Acne
- Hirsutism in 60% (often on the upper lip, chin, around the nipples and in a line beneath the umbilicus)
- Male pattern balding, alopecia
- Obesity (usually central distribution) or difficulty losing weight
- Psychological symptoms - mood swings, depression, anxiety, poor self-esteem
- Acanthosis nigricans (may be present, sign of insulin resistance)

Investigations:

- USS/Laparoscopy
- Fasting sugar may be increased
- May have normal to reversed LH:FSH ratio
- Free testosterone may be increased

Treatment:

No treatment reverses the hormonal disturbances of PCOS and treats all clinical features, so medical management is targeted at individual symptoms, and only in association with lifestyle changes.

1. Weight loss and exercise, consider **Orlistat**
2. **Co-cyprindrol/ Eflornithine** for hirsutism
3. **COCP /POP** to control menstrual irregularities
4. **Metformin** for increased insulin resistance, menstrual irregularity, hirsutism, acne

For treatment of infertility:

1. **Clomifene** - stimulates ovulation
2. **Metformin** – can be used with clomifene
3. **Laparoscopic ovarian drilling or gonadotrophins (LH/FSH)** – 2nd line treatment to clomifene

Complications

- **Endometrial hyperplasia and endometrial cancer** in untreated cases
- **Increased risk of type 2 diabetes** especially if obese, >40 year old, strong family history of DM Type 2
- **Complications in pregnancy:** there is a higher risk of gestational diabetes, pre-term birth and pre-eclampsia.

ENDOMETRIOSIS

Chronic oestrogen-dependent condition characterised by growth of endometrial tissue in sites other than the uterine cavity, most commonly in the pelvic cavity (including the ovaries)

Signs & Symptoms:

The appearance or worsening of symptoms at the time of menstruation, or just prior to it, suggests endometriosis.

- **Dysmenorrhoea**
- **Deep dyspareunia**
- **Cyclical pelvic pain**
- **Infertility**
- Examination is often normal but can have: Fixed retroverted uterus, enlarged boggy tender uterus (typical for Adenomyosis), posterior fornix or adnexal tenderness, palpable nodules in the posterior fornix or adnexal masses

Investigation – Laparoscopy is the gold standard to visualize the endometrial deposits in the pelvic cavity

Treatment

1. **Medical treatment.** COCP, medroxyprogesterone acetate, GnRH agonists, Mirena coil.

Medical treatment reduces symptoms in majority of patients, symptoms recur once treatment has stopped.

1. Surgical Treatments

- a. Excision of deeply infiltrating lesions (may reduce pain)
- b. Adhesiolysis
- c. Bilateral oophorectomy (often with a hysterectomy)

OVARIAN TUMOUR**Risk Factors:**

1. Nulliparity
2. Infertility
3. Early Menarche
4. Hx. of Ovarian Cancer
5. Past use of contraceptive pills

Types of Ovarian Tumours

1. **Benign cystic tumours** eg. Teratoma (dermoid cyst) - may contain hair and teeth.

1. **Benign neoplastic solid tumour** eg. Fibroma - small solid tumours which are associated with Meg's syndrome and ascites

Meg's Syndrome:

3 Cardinal symptoms:

1. Benign ovarian tumour
2. Ascites
3. Pleural effusion

NB. When encountered with pleural effusion, remember Meg's syndrome.

Investigations:

- CA 125
- CT abdomen and pelvis

Treatment: Surgery

DEEP DYSPAREUNIA (Pain during sexual intercourse)

Causes

1. Endometriosis – accompanied by cyclic pelvic pain, infertility, hemoptysis (if spread to lungs)
2. PID – young sexually active patient, +/- history of recent change in sexual partner
3. Atrophic Vaginitis – post menopausal women. can be treated with local estrogen cream or local lubricant

INFERTILITY

Failure to conceive after one year of unprotected sexual intercourse (2-3 times a week). Investigations should be started after one year of trying.

Causes:

The main causes of infertility in the UK are:

- **Unexplained infertility (no identified male or female cause) (25%)**
- **Ovulatory disorders (25%)**
- **Tubal damage (20%)**
- **Factors in the male causing infertility (30%)**
- **Uterine or peritoneal disorders (10%)**

Abnormalities of the tubes, uterus or cervix

- Pelvic inflammatory disorders
- Reversed female sterilization
- Uterine abnormality eg. septate uterus
- Damage to cervix due to cone biopsy
- Endometriosis

Male factors: Azoospermia- poorly motile or low sperm count on semen analysis

Investigations for females:

1. Mid-luteal progesterone level to assess ovulation (done 7 days before last day of menstrual cycle eg. day 21 of a 28 days cycle)
2. Gonadotropins (LH/FSH) if with menstrual irregularity because it is difficult to determine the duration of the menstrual cycle

NB. Basal body temperature charts are not recommended to predict ovulation, as they are unreliable. In irregular menstruation, mid-luteal progesterone levels cannot be used.

Investigations for males:

1. Semen analysis
2. FSH if 2 unsatisfactory results from semen analysis
3. Test for complete azoospermia is testosterone levels

ALARM BELLS IN OBSTETRICS AND GYNAECOLOGY

1. Postmenopausal bleeding is always endometrial cancer until proven otherwise.
1. Unscheduled bleeding on HRT is always endometrial cancer until proven otherwise.
1. Postcoital bleeding is always cervical cancer until proven otherwise even with a recent normal smear.
1. Pelvic discomfort, abdominal distention and dyspepsia could be symptoms of ovarian cancer.

1. All women of reproductive age with amenorrhea are pregnant until proven otherwise.
1. Abdominal or pelvic pain in a woman of reproductive years is always ectopic pregnancy until proven otherwise.
1. Abdominal pain(intermittent) with a negative pregnancy test could be ovarian cyst rupture.
1. "Being wet all the time" may signify urogenital fistula.
1. Vulval ulceration or bleeding may be neoplasm.
1. Exclude cancer in enlarging fibroids.

In a Pregnant Woman

1. Headache, flashing lights and epigastric pain means pre-eclampsia until proven otherwise.
1. Painless vaginal bleeding in the late pregnancy is always placenta previa until proven otherwise.
1. Haemoptysis, shortness of breath or chest pain is pulmonary embolism until proven otherwise.
1. Calf pain or swelling is always DVT until proven otherwise.
1. Watery vaginal discharge may signal pre term rupture of membranes.
1. Severe itching especially of palms and soles may be due to obstetrics cholestasis.
1. When a woman says that her baby is not moving as usual, take her seriously it is an indication of foetal distress.
1. Continuous worsening lower abdominal pain may indicate placental abruption.
1. Multiple changing, trivial complaints or missed appointments may flag up psychological or social problems including domestic violence.

Resource start date 2013-06-26 09:20

Resource end date 2023-06-27 09:20

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