Medical disorders in pregnancy

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Aims of teaching

• Overview of different medical disorders in pregnancy

• Discuss common medical disorders in pregnancy
Types of medical disorders

• Hypertensive disorders in pregnancy
• Heart Disease
• Thromboembolic disease
• Respiratory disease
• Diabetes
• Thyroid and parathyroid disease
• Connective tissue disease
• Neurological problems- Epilepsy
Contd.

- Renal disease
- Liver disease
- Gastrointestinal disease
- Haematological problems
- HIV and other infectious diseases
- Drug substance misuse & Alcoholism
- Psychiatric Disorders
- Obesity
• Implications
  - Adverse effect on mother
  - Adverse effect on fetus
    - Disease
    - Drugs
    - Prematurity
Hypertensive disorders

- Chronic/Essential hypertension
- Pregnancy induced hypertension/Gestational hypertension
- Pre-eclampsia
- Superimposed pre-eclampsia
Maternal complications

- Eclampsia
- Cerebral Haemorrhage
- Placental abruption
- Renal failure
- Pulmonary oedema
- ARDS
- Disseminated Intravascular coagulopathy
- HELLP syndrome, liver haemorrhage and rupture
- Thromboembolism
- Cortical blindness
Fetal effects

Fetal

• Intrauterine growth restriction
• Intrauterine death
• Iatrogenic preterm delivery
Diabetes in pregnancy

- Pre-existing diabetes
- Gestational diabetes

**Maternal Effect of diabetes**
- Increase in insulin requirements
- Hypoglycaemia
- Deterioration of diabetic nephropathy and retinopathy
- Infections - UTI, Vaginal candidiasis, wound infection
- Diabetic ketoacidosis is rare - but is a risk in the presence of hyperemesis, infection and corticosteroid therapy
Fetal/Neonatal effects

• Miscarriage
• Congenital anomalies- anencephaly spina bifida, cleft lip/palate, GI atresias, heart defects and sacral agenesis.
• Large for gestational age/macroosomia
• Birth injury: clavicle fracture, Erb’s palsy.
• Hypoglycemia
• Hypocalcemia
• Respiratory distress syndrome
Epilepsy in Pregnancy

- **Maternal effect**
  - Deterioration in seizure control (poor drug compliance, hyperemesis gravidarum)
  - Anaemia secondary to folate deficiency

- **Fetal effect**
  - No increased risk of miscarriage
  - Increased risk of congenital anomalies (4%)
  - Increased risk of epilepsy in the child (4%)
  - All anticonvulsants cross the placenta and are teratogenic. Major malformations are neural tube defects, orofacial clefts and congenital heart defects.
  - Breast feeding is safe while taking anticonvulsant
Renal diseases in pregnancy

- **Asymptomatic Bacteriuria**
- **Urinary Tract Infection**
  - Risk of Acute Pyelonephritis, Preterm labour
  - Amoxycillin and Cephalosporins are appropriate
- **Chronic Renal Diseases**

  *Maternal effects*- Possible accelerated decline in renal function, escalating hypertension, worsening proteinuria and pre-eclampsia.

  *Fetal effects*- Miscarriage, Pre-eclampsia, IUGR, preterm delivery and intrauterine fetal death.
Thyroid disorders

• Hyperthyroidism
  - Untreated hyperthyroidism is dangerous for mother and the baby
  - lowest possible dose of antithyroid drug (≤ 15 mg Carbimazole and ≤ 150mg propylthiouracil) should be used as high doses may cause fetal hypothyroidism and goitre. Women may safely breast feed on these doses.
  - Beta blockers are safe to use.
  - Neonatal or fetal thyrotoxicosis due to transplacental passage of thyroid stimulating antibodies is rare.
Hypothyroidism

- Untreated hypothyroidism is associated with infertility, an increased risk of miscarriage, and fetal loss.

- For those on replacement therapy, maternal and fetal outcome is usually good and unaffected by hypothyroidism.

- Very little thyroxine crosses the placenta and the fetus is not at risk of thyrotoxicosis from maternal T4 replacement therapy.
Thromboembolic disorders

• Thromboembolism is commonest cause of death in pregnancy and puerperium in UK.

• Pregnancy is associated with increased risk of thrombosis. The risk increases with increasing maternal age. Emergency C.Section is associated with a greater than 20 fold increased risk of dying from pulmonary embolism compared to spontaneous vaginal delivery.

• Treatment is as for non-pregnant patient (Low molecular weight heparin). *Warfarin is teratogenic and should be avoided in pregnancy, especially in first trimester. Heparin and Warfarin are safe to use in breast feeding mothers.*
Connective tissue disorders

- **Systemic lupus erythematosus**
  - Risk of flare during pregnancy. Disease flare must be actively managed. Corticosteroids are the drug of choice.
  - Adverse outcome is related to the presence of renal involvement, hypertension, antiphospholipid antibodies and disease activity. These factors increase the risk of miscarriage, fetal death, pre-eclampsia, preterm delivery and IUGR.
  - Risk of transient cutaneous lupus and the risk of congenital heart block in fetus.
- **Rheumatoid arthritis**
- **Antiphospholipid antibody syndrome**
Haematological Disorders

• Anaemia

• Haemoglobinopathy

• Thrombocytopenia
Obesity

• Maternal effects
  - Hypertension
  - Diabetes
  - Thromboembolism
  - Dysfunctional labour, increased intervention
  - Anaesthetic risk

• Fetal effects
  - Congenital anomalies (Neural tube defects)
  - Macrosomia
  - Birth injuries
  - Intrauterine fetal death
Drug Misuse

- Congenital fetal anomalies
- Low birthweight
- Neurodevelopmental delay
- Placental abruption and intrauterine death
- Blood-borne virus infection
- Difficult venous access
- Increased risk of thromboembolism
Maternal Infections

- Cytomegalovirus
- Toxoplasma gondii
- Herpes virus
- Parvovirus
- Rubella
- Syphilis
- Group B Streptococcus
- HIV
- Hepatitis B & C
- TB
- Listeria monocytogenes
- Malaria
Fetal Effects

Intrauterine infections
• Miscarriage or intrauterine death
• Preterm delivery
• IUGR
• Haematological disorder- Thrombocytopenia, anaemia, neutropenia
• Congenital heart disease
• Musculoskeletal disorder
• Microcephaly and cerebral anomaly with neurodevelopmental morbidity
• Congenital cataract and visual impairment
• Sensorineural deafness
Overall Management

Multidisciplinary Management

• **Preconceptual counselling**
• **Maternal monitoring**, *ideally in combined medical – antenatal clinics (Obstetric Physicians)*
• **Fetal monitoring** (Scans/Doppler)
  - Neonatologist to be informed early in pregnancy.
  - Optimisation of mode and time of delivery.
  - Breast feeding.
  - Postnatal Care.