PREECLAMPSIA & ECLAMPSIA

Objective:-

- A unique disease (syndrome) of pregnant woman in the second half of pregnancy.
- Carries significant maternal & fetal morbidity and mortality.
- Two criteria for diagnosing preeclampsia hypertension & proteinuria, in eclampsia tonic and clonic convulsions.
- The definite cure of preeclamsia & eclampsia is delivery.

Defenition of preeclampsia:-

The presence of hypertension of at least 140/90 mm Hg recorded on two separate occasions at least 4 hours apart and in the presence of at least 300 mg protein in a 24 hours collection of urine arrising de novo after the 20^{th} week gestation in a previously normotensive women and resolving completely by the sixth postpartum week.

Classification of hypertensive disorders of pregnancy

- Preeclampsia / eclampsia
- Chronic hypertension
- Chronic hypertension with superimposed preeclampsia
- Gestational or transient hypertension

- **Incidence**

  3% of pregnancies.

Epidemiology

- More common in primigravid
- There is 3-4 fold increase in first degree relatives of affected women.

Aetiology;

Dis. Of theories.

- Damage to the vascular endothelium by factor X from the poorly perfused trophoblast
- Abnormal lipid metabolism;
- reduced antioxidant
- altered catecholamine homeostasis
- abnormal dietary Ca, Mg
- reduced production of nitric oxide
- Abnormal trophoblast invasion.

Maternal Risk Factors

- First pregnancy (primigravida)
- Age younger than 18 or older than 35
- Prior h/o preeclampsia
- Black race
- Medical risk factors for preeclampsia - chronic HTN, renal disease, diabetes, anti-phospholipid syndrome
- Twins
- Family history
- lower socio-economic group.
- Abnormal dietary Ca, Mg., or selenium content.
- Obesity.
- Smoking

Symptoms of preeclampsia

1. Headache
2. May be symptomless
3. Visual symptoms
4. Epigastric and right abdominal pain

Signs of preeclampsia

1. Hypertension
2. Non dependent oedema
3. hyperreflexia

Investigations

Maternal

- Urinalysis by dipstick
- 24hours urine collection
- Full blood count(platelets&haematocrit)
- Renal function(uric acid,s.creatinine,urea)
- Liver function tests
- Coagulation profile

Management of preeclampsia

Principles

- Early recognition of the syndrome
- Awarness of the serious nature of the condition
- Adherence to agreed guidelines(protocol)
- Well timed delivery
- Postnatal follow up and counselling for future pregnancy
- REMEMBER: Delivery is the only cure for preeclampsia

A) Mild preeclampsia

Diastolic blood pressure 90-95mmHg minimal proteinurea,normal heamatological and biochemical parameters,no fetal compromise. Deliver at term.

B) severe preeclampsia (BP>160/110MMHG, urine protein 5grams 3+)

Abnormal haematological and biochemical parameters, abnormal fetal findings

1. Control blood pressure.

Mild vs. Severe Preeclampsia

	Mild	Severe
Systolic arterial pressure	140 mm Hg – 160 mm Hg	≥160 mm Hg
Diastolic arterial pressure	90 mm Hg – 110 mm Hg	≥110 mm Hg
Urinary protein	<5 g/24 hr Dipstick +or 2 +	≥5 g/24 hr Dipstick 3+or 4+
Urine output	>500 mL/24 hr	≤500 mL/24 hr
Headache	No	Yes
Visual disturbances	No	Yes
Epigastric pain	No	Yes

Drugs:-

agent	action	dose	**Side effect**	comment
Methyl dopa	***central***	***500-4000 mg***	***dpression***	***Late onset 24hours***
hydralazine	***Direct vasodilator***	***5mg…10m g***	***Headache, Flushing palpitation***	***Drug of emergency***
labetalol	***Beta&alpha blocker***	***20mg…40m g every 10m***	***Nausea Vomiting h.block***	***Avoid in h.Failure b.asthma***
nifedipine	***Ca.channel blocker***	***5mg sub.***	***Severe headache***	***For emergency***

2) Delivery:-

- Transfer patient to tertiary center if her Condition permits.
- If fetus is preterm give mother 12mg Dexamethasone im twice 12hs apart to enhance lung maturity.
- Deliver c/s or vaginal.
- Avoid ergometrine in 3rd stage.
- Give anticoagulant.

Complications of preeclampsia:-

Fetal

- IUGR
- IUFD
- Abruption placenta
- Premature delivery

Prophylaxis(aspirin,antioxidant)

Maternal complications of severe preeclampsia

- Cardiovascular dysfunction (cardiac failure, hypertension)
- Renal dysfunction (oliguria, reduced GFR, elevated creatinine, acute tubular necrosis, cortical necrosis)
- Respiratory dysfunction (ARDS, pulmonary edema)
- Hepatic dysfunction (elevated liver enzymes, subcapsular hematoma, HELLP syndrome)
- Cerebral dysfunction (encephalopathy, ischemia, cortical blindness, retinal detachment, infarction, hemorrhage, edema, eclampsia)

Eclampsia:-

Is a life threatening complications of preeclampsia,defined as tonic,clonic convulsions in a pregnant woman in the absence of any other neurological or metabolic causes.It is an obstetric emergency.

It occurs antenatal,intrapartum,postpartum (after delivery 24-48hs)

Management(carried out by a team)

1. Turn the patient on her side
2. Ensure clear airway(suction,mouth gag)
3. Maintain iv access
4. Stop fits(Mg.sul,diazepam)
5. Control BP(hydralazine,labetalol)
6. Intake & output chart
7. Investigations(urine,FBC,RFT,LFT, clotting profile,cross match)
8. Monitor patient and her fetus
9. After stabilization(BPcontrolled,no convulsions,hypoxia controlled) deliver

Mg.sulphate:-

- Drug of choice in ecclampsia
- Given iv, im(4-6gm bolus dose,1-2gm maintenance)
- Acts as cerebral vasodilator and membrane stabilizer
- Over dose lead to respiratory depression and cardiac arrest
- Monitor patient(reflexes,RR,urine output)
- Antidote cal.gluconate 10ml 10%.