# DIAGNOSIS AND MANAGEMENT OF PREECLAMPSIA WITH SEVERE FEATURES

**BY**

**MUGANZI CHRISTINE .**

**ASIS. NURSING OFFICER(MIDWIFERY),**

**IGANGA HOSPITAL**

# Overview

- Pre eclampsia is a pregnancy complication that is characterised by high Blood pressure of greater than or equal to 140/90 mmHg at least 2 readings taken at least 4 hours apart
  OR
  • Blood pressure of greater than or equal to 160/110 mmHg(confirmed within 15minutes) with or without proteinuria after 20 weeks of gestation in a previously normotensive patient.

- Pre eclampsia is currently the second leading cause of death in women during pregnancy and child birth in Uganda..

HOW TO RULE OUT SEVERE FEATURES/DIAGNOSIS

The severe features can be:

- Symptoms
- Physical examination findings
- Laboratory findings
- Imaging findings

# Severe symptoms of preeclampsia include

- Persistent cerebral or visual disturbances
- Neurological complications eg severe headache, scotomata.
- Pulmonary edema( Spo2<90%).
- Progressive renal insufficiency(serum creatinine< 1.1mg/dl).
- Impaired liver function as indicated by elevated liver transaminases at least twice upper limit or epigastric pain non responsive to medications.
- Thrombocytopenia(platelet count<100,000/microL)
- SBP greater or equal to 160mmHg or DBP greater or equal to 110mmHg.
- Utero-placental dysfunction(IUGR, abnormal umbilical artery doppler wave form or stillbirth).

# Management goals of Pre Eclampsia with severe features.

# Aims /goal of mgt

- Prevention or control of seizures/convulsions or fits
- Control of  blood pressure
- Plan for delivery.
- Post delivery and long term follow up
- Prevention of recurrence
- **NOTE: All cases are managed on inpatient basis.**

# Goal 1: Prevent & / or control of convulsions.

- Recommended drug is magnessium sulphate(MgSO4)

**Loading dose**: (if not yet given from referring unit) 14 g given as IV 4g of 20% followed by IM 5g of 50% with 1ml of 2% lignocaine in each buttock.

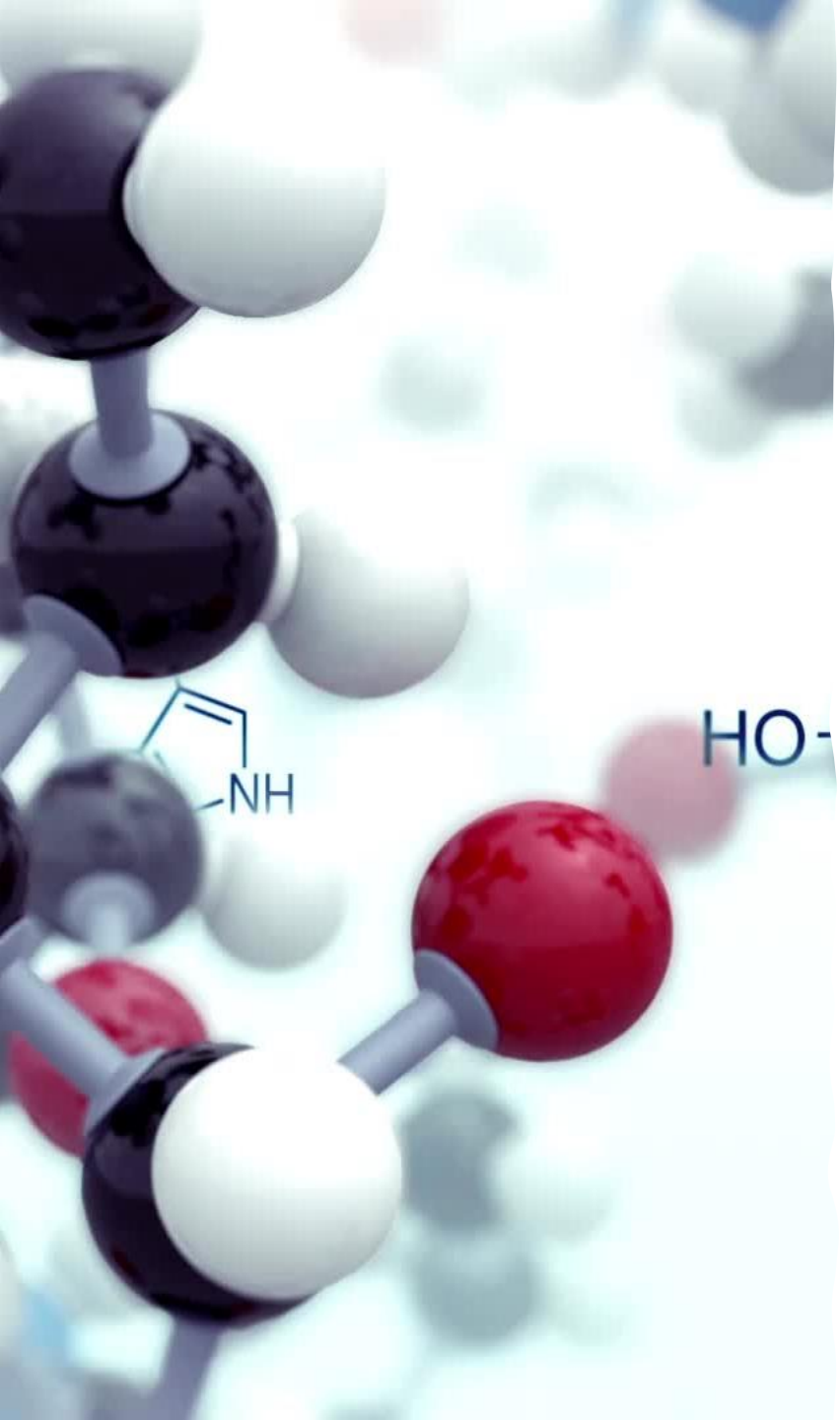
• **Maintenance dose:** IM 5g of 50% with 1ml of 2% lignocaine on alternate buttocks every 4 hours for 24 hours after delivery or last fit whichever occurred last

# Prevent ion and control convulsions or fits .

- • If patient convulses again before the next maintenance dose give IV 2g of 20% & continue with the maintenance dose for 24 hours after delivery or last fit which ever occurred last
- Additionally, if patient continues to convulse, give IV Phenytoin 1g in 500mls of saline and consult critical care team.

# MgSO4 toxicity

- Check for magnesium sulphate toxicity and signs of kidney failure before administration of subsequent doses of MgSO4. Toxicity correlates  with serum magnesium concentration.
  - Hyporeflexia – reduced deep tendon reflexes
  - Respiratory depression (RR < 16 breaths per minute)
  - Oliguria (urine output less than <100mls in 4 hours) a sign of renal failure that can lead to toxicity.




# Mgso4 toxicity

- If **toxicity is present,** Stop MgSO4
- Give calcium gluconate intravenously (1500 to 3000mg of 10% solution IV  over 2 to 5mins)
- Alternatively, Calcium chloride 5 to 10ml of a 10% solution(500 to 1000mg) IV over 2 to 5 minutes but its more irritating and likely to cause tissue necrosis in case of extravasation
- Note; MgSO4 is contraindicated in myasthenia gravis

# Goal 2. Control of blood pressure

- Hypertension is classified as severe (BP ≥160/110 should be confirmed with a repeat measurement within 15 minutes. Should be treated promptly within 30 to 60 minutes with;
- IV **Labetalol** 20mg, repeat as needed every 10 minutes, can double to 40mg, then 80mg, until BP <160/110mmg . Max total dose is 300mg in24 hours

# Control of blood pressure

- **OR** IV **Hydralazine** 5mg given slowly over 20 min, repeat every 30 minutes until BP <160/110 mmHg, Max total dose is 30mg in 24 hours
- OR **Oral immediate release Nifedipine** 10mg Repeat BP measurement at 20-minute intervals. Maximum 3 doses.
- In severe Hypertension,  the target blood pressure is of a non severe range and can be lowered gradually over hours to days

# Control of blood pressure

- **Once BP <160/110 mmHg(Non severe Hypertension)**
- Initiate oral medication with Nifedipine starting at 20 mg

• 12 hourly, methyldopa at 250mg 8 hourly, labetalol starting at 200mg 12 hourly or a combination of drugs.

- Dosing should be titrated accordingly with response .
- BP should be lowered gradually over hours to days.

• • Target average BP in non severe Hypertension  is 135/85 mmHg (130-139/80-89 mmHg)

# Control of blood pressure

- **Note**; Anti hypertensive  medications do not prevent eclampsia or disease progression but are intended to prevent end organ damage mainly CVA/ Stroke

# Goal 3. Plan for Delivery

- The ultimate or definitive treatment of pre eclampsia is delivery
- Delivery minimizes risk of serious maternal and foetal complications
- **NOTE; Decision of delivery is based on GA, maternal condition , Foetal condition and severity of pre eclampsia.**
- If the mother is at or more than 37 weeks of gestation, consider immediate delivery after stabilisation. Note that delivery should be achieved within 24hours.
- The best mode of delivery is vaginal if no contraindications.
- For others , determine if there`s an indication for delivery
- If there is no indication for delivery, offer expectant management

# Plan for Delivery..

- At a higher facility (CEmONC facilities), admit and initiate delivery within 24hours
  • Mode of delivery should be based on obstetric assessment
  • Assess foetal well-being (foetal movements, heart sounds, quantity of liquor, foetal growth) and maternal well-being and deliver appropriately.
  • If cervix is favourable, and no contraindications to vaginal delivery, induce labour with either oral mesoprostal tablets 25mcg or intervaginal

# Plan for Delivery..

- If cervix is not favourable Ripen cervix with Prostaglandin E2 and deliver vaginally if there is no contraindication
- In the absence of prostaglandin E2, induce with 25 micrograms of misoprostol given every 6 hours vaginally for 24 hours or oral solution every 2 hours for 12 hours, If there are contraindications to vaginal delivery, deliver by emergency caesarean section.
- However, Delaying delivery to increase foetal maturity and reduce neonatal mortality & morbidity can be considered under certain circumstances

# Goal 3. Components of expectant mgt of preeclampsia

- **In patient care** until delivery(pre eclampsia with severe features)
- Daily maternal and foetal assessment for delivery indication, Daily Lab tests( PLT, LFTs and RFTs), BP control, MgSO4 administration, Corticosteroid for those < 34WOG, Fluid input and output monitoring, Twice weekly obstetric USS , Doppler studies, Deliver immediately if indication arises
- **Outpatient care** (pre eclampsia without severe features)
- Weekly ANC follow up, weekly Labs, if severe features don’t develop, deliver at 37WOG

# Goal 4. Post delivery and long-term follow-up

- Close monitoring for vital signs  ever 2hrs for 1 day, then 4-6 hrs for  3 days; Some patients require  longer monitoring
- Continued follow up is needed till all signs and symptoms of preeclampsia resolve
- Repeat lab tests till two consecutive sets of data are normal
- Complete MgSO4
- Taper antihypertensives slowly after 3-6 days is favoured over abrupt total stoppage
- BP should be monitored after stoppage of antihypertensives
- Discharge on day 5 if stable.

# Postpartum care and follow up cont’d

- R/V at 1, 6 & 12weeks postpartum; Repeat Labs, further workups depending on persistent abnormalities eg secondary cause of HTN or renal disease.
- Additionally, Special management can be offered to mothers who develop acute complications of pre eclampsia( HELLP syndrome, AKI )
- Asses for depression, anxiety PTSD
- Offer information for increased risk of CVD, Stroke, DM, CKD, recurrence .
- Yearly follow up: monitor BP, fasting lipids, blood sugar.
- Link to physicians.

# Goal 5 Prevention of recurrence

- Pre eclampsia survivors are at an increased risk of recurrence, placenta abruptio, still birth, IUFGR, Chronic HT, DM, chronic kidney disease, mental disorders.
- They should be educated on strategies to reduce the risk
- Regular BP monitoring, regular screening, appropriate weight, healthy diet, exercise, preconception optimisation
- **ANC Prevention or risk reduction of pre eclampsia**
- Administer low dose Aspirin 150mg once daily for a mother with any one high risk factors .Start from 11WOG but before 16WOG- PREFERABLY taken at night. Stop aspirin at 36WOG
- Calcium can also be given to population  of low dietary calcium intake

# Summary

- Intensified case detection of hypertensive disorders during ANC and early management prevents preeclampsia, and its complications hence reducing both maternal and neonatal morbidity and mortality.

# Qtns & Ans.
# Thanks for listening