Practical Management of Eclampsia
Eclampsia

- Greek word which translates to – ‘flash of lightening’

- Medical definition – seizures that cannot be contributed to other cause in a women with preeclampsia
Terminology

- **Pre-eclampsia**
  - Multisystem disorder of unknown aetiology characterised by development of hypertension to the extent of 140/90 mm of Hg or more with proteinuria after 20 weeks in a previously normotensive and non-proteinuric patient

- **Intercurrent eclampsia**
  - When a patient becomes conscious after recovery from a convulsion and pregnancy continues beyond 48 hours

- **Status Eclampticus**
  - When convulsions occur in quick succession without remission

- **Eclampism**
  - Loss of consciousness without convulsion
Premonitory symptoms and signs

- Persistent occipital headache
- Visual disturbances – blurring, scintillating scotomas
- Epigastric pain
- Anxiety
- Amnesia
- Focal neurological symptoms
Eclamptic convulsion

- Tonic phase
- Clonic phase
- Coma
Complications

- Neurologic
  - ICH
  - Cerebral oedema

- Pulmonary
  - Upper airway oedema
  - Pulmonary oedema

- CVS
  - Heart failure

- Hepatic
  - Impaired function
  - Elevated enzymes
  - Haematoma
  - Rupture
Complications ...

- Renal
  - Renal failure

- Haematological
  - Coagulopathies
    - Thrombocytopenia
    - Platelet dysfunction
    - Prolonged aPTT

- Labour
  - Abruptio placenta
  - Operative intervention
  - PPH

- Microangiopathic
  - Haemolysis
Foetal complications

- Preterm labour
  - Spontaneous or Induced

- IUFD

- Foetal distress
Differential Diagnosis

- Epilepsy
- Intracranial tumours
- Encephalitis
- Meningitis
- Cerebral malaria
- Cysticercosis
- Ruptured cerebral aneurysm
- Puerperal cerebral thrombosis
- Metabolic causes of convulsions
- AFLP
Principles of Management

- Control of convulsions
- Control of hypertension
- Assessment of foetus
- Timing and route of delivery
- Referral due to other organ complications
Initial management

- Shout for help – mobilize personnel
- Rapidly evaluate ABC
- Check vitals
- Left lateral position; suctioning oropharynx
- Protect from injury; avoid restraining the patient
- Nasal oxygen @ 4L/min; wide bore IV access
- Keep blood and blood products ready
- Keep emergency tray ready
Initial management...

- Seizures are usually short-lived
- If respiratory depression present, rapid sequence induction with cricoid pressure and intubation should be performed
- Patient may be extubated once she is completely awake, recovered from neuromuscular blockade and MgSO4 has been administered
- **DO NOT LEAVE THE PATIENT ALONE!**
Management of seizure

- MgSO4 . 7 H20
- Phenytoin
- Diazepam
- Pethidine ; Chlorpromazine ; Promethazine
The history of MgSO4

- 1st used in the treatment of tetanic convulsions in early 1900s

- In modern obstetrics, it was popularized by Dr. Jack A. Pritchard (1955)

- Zuspan recommended
  - 4gm IV bolus followed by 1gm/hr infusion

- Sibai’s modification
  - 6gm load followed by 2gm/hr infusion
Pritchard’s regimen

- Continuous IV infusion
  - 4-6gms loading dose of MgSO4 in 100cc of IV fluid administered over 15-20 mins
  - Begin 2gm/hr in 100cc of IV fluid for maintenance
  - Measure serum Mg at 4-6 hrs and adjust infusion to maintain level between 4-7mEq/L
Pritchard’s regimen

- Intermittent intramuscular injection
  - 4gms MgSO4 as 20% solution IV at a rate not to exceed 1gm/min
  - Follow promptly with 10gm of 50% MgSO4 solution in two divided doses in each buttock deep IM in upper and outer quadrant with a 3 inch long 20G needle
  - Addition of 1cc of 2% lignocaine minimizes pain
Pritchard’s regimen

- If convulsions persist after 15 mins, give up to 2gms more IV as a 20% solution, not to exceed 1gm/min in large women, 4gms may be given.

- Every 4 hrs, 5gms of 50% solution in alternate buttocks after ensuring:
  - Deep tendon reflexes (Why?)
  - Respiratory rate (Why? And at least how much?)
  - Urine output > 100cc in the last 4 hrs (Why?)
How do you monitor such a patient?

- Eclampsia bed
- Eclampsia room/suite
- Light/sound
How do you monitor such a patient?

- Parameters
  - Vitals
  - DTR
  - RR
  - Urine output

At what levels do the above get deranged?
When will you stop MgSO4?

- 24 hours after delivery if the convulsion was antepartum

- 24 hours after the last convulsion if the convulsion was post-partum
Antidote?

- WITHOLD MgSO4

- Give 10cc of 10% Ca Gluconate IV slowly over 3 minutes with a constant watch on heart rate

- If severe respiratory depression or arrest prompt tracheal intubation and mechanical ventilation
Phenytoin

- Use only if contraindication to MgSO4 are present

- Loading dose
  - 15mg/kg to 25mg/kg with continuous monitoring of the cardiac function and BP every 5 mins. The therapeutic range is 10-20 mcg/ml. Followed by 500mg iv 12 hrs after end of infusion
Diazepam

- 40mg IV stat

- Followed by 40mg in 500cc of 5% dextrose at 30 drops/min

- OR – followed by 10-20mg IV every 3-4hrs
Krishna Menon’s lytic cocktail

- 25mg CPZ + 100mg Pethidine in 20cc of 5% dextrose IV; 50mg CPZ + 25mg Promethazine IM

- Followed by – 25mg Promethazine and 50mg CPZ alternately every 4 hours

- With a continuous infusion of 500cc of 10% dextrose with 100mg Pethidine @ 20-30 drops/min upto 24hrs after last seizure
Control of hypertensive crisis

- Nifedipine: working group of NHBPEP recommends nifedipine in a dose of 10mg orally to be repeated in 30mins. Sublingual route is more potent and rapid hypotension may develop in some patients.

- Labetolol: 10mg IV initially; if decrease in BP is not below desirable level in 10mins then repeat 10mg IV.... Followed by 20mg after 10mins if still not controlled.... 40mg after another 10mins.... 80mg after another 10mins and so on....
Control of hypertensive crisis

- **Hydralazine**: given when diastolic BP > 110mm of Hg or systolic BP > 160mm of Hg in a dose of 5-10mg at 15-20mins interval until satisfactory response in achieved

- For refractory hypertension
  - Nitroglycerine
  - Nitroprusside

- Others
  - Verapamil
  - Nimodipine
Fluid management

- Diuretics
  - Immediate volume depletion
  - Compromise placental perfusion
  - Used only if pulmonary oedema identified/suspected

- Hyperosmotic agents
  - Increase oedema in vital organs

- Fluids
  - Ringer’s Lactate at a rate of 60cc/hr; not to exceed 125cc/hr

- Role of fluid restriction
Induction vs Continuation

- Termination of pregnancy is THE only definitive cure for Eclampsia

- Continuation of pregnancy albeit temporarily may be considered if
  - Steroid has been given to ensure foetal lung maturity
  - Haematological parameters are deranged
  - Coagulopathy
Induction vs LSCS

- Depends on
  - Cervical status
  - Gravidity
  - Facilities for continuous IPM
  - Associated obstetric indication
  - Gestational age / foetal prognosis
Intrapartum management

- Continuous surveillance of
  - Vital parameters
  - FHR
  - DTR / RR / Urine output if patient has been given MgSO4

- To watch for
  - Foetal distress
  - Abruptio placentae
  - Premonitory signs and symptoms
  - Signs of hypermagnesemia
Postpartum management

- Early postpartum
  - Prophylaxis for PPH
  - Continue MgSO4 as discussed before
  - Neonatal care till mother is stable
  - Titration of antihypertensive drugs
  - Antibiotic cover

- Late postpartum
  - Monitor to detect chronic hypertension
  - Taper antihypertensives gradually if BP is controlled
PROTOCOL FOR ECLAMPSIA

ABC
Left lateral position
Insert padded tongue blade
Avoid gag reflex
Suction oral secretion
Give O2 mask at 8-10 L/min
Elevate bedside rails & pad them to avoid injury
Use physical restraints if necessary
IVF (@80ml/hr or 1ml/kg/hr)

Loading dose of MgSO4 & then
maintenance
If referred with MgSO4, then
maintenance only

DELIVERY

INDICATION FOR CS
Unripe cx
Gestational age < 32wk
Inadequate BP control
Obstetric indication for CS
Fetal distress, status epilepticus
Prognosis for future pregnancy

- Nulliparous women diagnosed with preeclampsia before 30 weeks have a recurrence risk as high as 40% during a subsequent pregnancy.

- Women with one episode of HELLP syndrome had a recurrence risk of 5%.

- Multiparous women who develop preeclampsia are at an increased risk of recurrence as compared to nulliparas who develop preeclampsia.

Long term prognosis

- Preeclampsia does not CAUSE chronic hypertension

- Multiparas are more at risk of developing chronic hypertension than nulliparas with eclampsia

- Women with recurrent preeclampsia are at an increased risk for developing chronic hypertension
THANK YOU