NEONATAL SEIZURES

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LEARNING OUTCOME

- Diagnose & manage neonatal seizures

OBJECTIVES

- Define neonatal seizures
- State the significance
- Outline the types
- Outline the manifestation
- State the aetiology
- Outline the management

DEFINITION

- Neonatal seizures are paroxysmal alterations in neonatal behaviour initiated by hypersynchronous activity of neurones in the brain
- **Significance**
- Usually relate to significant illness
- If untreated they interfer with important supportive measures
- Can cause brain injury

TYPES OF SEIZURES

- **Subtle seizures** -most common
- C/F are often overlooked
- Are identified as seizures because of accompaning EEG correlates & sensation with anticonvulsants
- **Eyes** -fixed staring, occular movements, repeatative blinking, horizontal deviation of the eyes

- Mouth –chewing, drooling, sucking, laughing
- R/S – Apnoea
- Motor –boxing, swimming, pedaling, stepping movements of upper & lower limbs
- Autonomic --↑BP & Heart rate
- CNS – crying

- Tonic seizures –are generalized with tonic extension of lower limbs
- Multifocal clonic– clonic m’vnt of one limb that migrates to another body part in unordered manner
- Occurs in term infants
- Focal clonic –well localized clonic jerky mov’nts without loss of consciousness

- Myoclonic --rare,
- Consists of single or multiple jerks of flexion of lower or upper limbs

AETIOLOGY

1. HIE—Hypoxic ischaemic encephalopathy
- Follow neonatal asphyxia
- Occurs within 24 hrs
- 2. intracranial haemorhage
- 1° subarachnoid haemorhage
- Periventricular haemorhage & intraventricular
- Subdural haematoma
- Hypoglycaemia- SGA, infants of DM mothers

- Hypocalcaemia & hypomagnesaemia (asphyxia, LBW, infants of DM mothers
- Local anaesthetic intoxication— paracervical & pudental block
- Metabolic –hyponatreamia & hypernatreamia
- Peridoxime deficiency
- Intrcranial infections – bacterial & non bact..
- Developmental defects, drug withdrawal-
- Familial

INVESTIGATIONS

- Full haemogram
- U/E
- Blood sugar
- X-ray skull
- EEG
- Cranial U/S
- CT scan
- CXR, L.P, septic screening

MANAGEMENT

- Dx –hx, PE, Investigations
- Supportive Rx
- Adequate ventilation, perfusion, nutrition, & hydration
- **Anticonvulsants**—phenobarbitone Im 15mg/kg loading dose is the drug of choice
- Maintenance –3—4mg/kg/day im/ po
- 12hrs after loading. X1-2 mo or 1wk seizure free

CONT.

- Or phenytoin 1v only 20mg/kg in absence of phenobarb (causes tissue necrosis)
- **Diazepam** –rarely used in neonatal seizures
- Has poor maintenance
- Can cause circulatory collapse & resp failure
- Can prespitate jaundice
- Therapeutic dose is variable

SPECIFIC TREATMENT

- Hypoglycaemia –2mls/kg 10% dextrose
- Hypocalcaemia –ca gluconate 200mg/kg stat
- Hypomagnesaemia –0.2mls/kg of 50% soln
- Pyrodoxime deff-- iv 50—100mg
- Prevention –prevent specific cause

COMPLICATIONS

- Cerebral palsy
- Mental retardation
- Epilepsy
- **Rx** --Rehabilitation of the above

QUESTIONS ?

End