NETS WA

NEWBORN EMERGENCY TRANSPORT SERVICE MEDICAL GUIDELINES

CLINICAL GUIDELINES

Seizures
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Newborn Emergency Transport Service Medical Guidelines
King Edward Memorial/Princess Margaret Hospitals
Perth Western Australia
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Seizures

Aetiology

- Hypoxic Ischaemic Encephalopathy (HIE)
- Metabolic Causes: Hypoglycaemia; urea cycle disorders
- Electrolyte abnormalities, eg hypocalcaemia
- Intracranial Haemorrhage
- Intracranial Infections. Consider bacterial, viral (especially HSV)
- Brain Malformations
- Illicit Drug Withdrawal
- Benign Familial Neonatal Seizures

Presentation

- Seizures in the newborn period may be difficult to detect, as they can have different presentations:
  - Subtle: staring, eye deviation, chewing, sucking, lip smacking
  - Clonic
  - Tonic
  - Tonic-clonic
  - Myoclonic
  - Apnoea: especially in term neonates, apnoea should be considered seizure activity until proven otherwise.

Management

- May require intubation if unsafe airway from recurrent severe apnoeas, recurrent seizures with oral secretions, sedation from medication
- Correct electrolyte disturbance and metabolic acidaemia if present
- Start IV antibiotics
  - Amoxycillin, gentamicin and if meningitis suspected, add cefotaxime
  - Consider adding aciclovir

Antiepileptic medication

- If neonate is in status or seizure > 5 minutes duration, primary aim is the stop the seizure
- Generally, the order of medications is as follows:

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    - Phenobarbitone 20mg/kg IV loading dose; can have a further 10mg/kg in 2 divided doses
    - If seizures still uncontrolled, consider phenytoin 20mg/kg over 30-60 minutes
    - If seizures still uncontrolled, consider midazolam infusion (1-6 micrograms/kg/min)
- With all anti-epileptic medications, respiratory and cardiac depression may occur so be prepared for intubation and ventilation

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