Children’s Acute Transport Service

Clinical Guidelines

Status Epilepticus

Document Control Information

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Applicable to All CATS employees
1. Assessment

Aetiology

- Febrile convulsion
- Known epileptic + acute illness
- Meningoencephalitis
- Metabolic/electrolyte abnormality (glucose, calcium, sodium)
- Drug, intoxication, poisoning
- Stroke / bleed
- Trauma (including NAI)
- Secondary to raised intracranial pressure i.e. blocked VP shunt, space-occupying lesion. CATS can facilitate a conference call with Neurosurgical team if required.

Duration of fitting
- Nature of fit (generalised or focal)
- Treatment given

2. Initial management

- Ensure patent airway
- Give 100% oxygen
- Check glucose before giving anticonvulsants.
- Stop seizures using the APLS (2017) protocol shown below. **Give enough time for drugs to work to avoid respiratory depression from benzodiazepine overdose.**
- Investigations - Check urea, electrolytes, calcium and magnesium. Consider blood cultures if child had fever. Consider taking early urine sample for toxicology.
- Maintain normothermia. Treat fever with paracetamol +/- ibuprofen and cooling.
- Ceftriaxone (cefotaxime for age <1 year), acyclovir and erythromycin are recommended if aetiology is uncertain (ie meningo-encephalitis is a possibility) and acyclovir should be used for focal fits of unknown cause.
- Consider mannitol 0.25g/kg and/or 3ml/kg 3% or 2.7% NaCl (aim Na 145 mmol/l) if signs of raised intracranial pressure (bradycardia, hypertension, pupillary signs) this should be discussed with neurosurgery.
- **Avoid Lumbar puncture in a child with a reduced level of consciousness.**
- Consider CT scan +/- contrast if seizures atypical, focal or aetiology uncertain.
3. Indications for intubation

- Child in refractory convulsive status epilepticus after completion of IV phenytoin/ IV phenobarbitone.
- Airway compromised at any time.
- Hypoxia.
- Glasgow coma score remains <8.
- To establish neuroprotection (CO2 control) in a child requiring a CT scan and pending results.

4. Management of the child requiring intubation

- Rapid sequence induction with thiopentone and suxamethonium (if no hyperkalemia, myopathy or kidney injury).
- Insert OGT if not already in situ. Place on free drainage.
- Initiate infusions of morphine and midazolam once ETT in situ.
- NB Midazolam IV is useful as an anticonvulsant.
- If seizures continue consider further administration of thiopentone (discuss with CATS consultant on call).
- In collaboration with on call CATS and Neurology Consultant - IV Levetiracetam 10mg/kg, max dose 2.5g may be considered.
- Administer IV fluids at 60% maintenance.

5. Transport considerations

Not all children who require intubation (particularly those intubated for temporary respiratory depression after benzodiazepines) will require transfer to a PICU.

- Ventilate to normocarbia (neuroprotection strategies).
- Infusion or bolus drugs for breakthrough seizures available en route (benzodiazepines, thiopentone).
- Monitor glucose.
- Consider mannitol or 2.7% NaCl if signs of raised ICP (bradycardia, hypertension, pupil changes) and discuss with neurosurgery.
- Paralysis to assist ventilation and prevent accidental extubation during transport.
- Take copies of CT scans or send them electronically if these have been performed.
- Prepare Dopamine infusion.
Children’s Acute Transport Service provides paediatric intensive care retrieval for Great Ormond Street, The Royal Brompton and St Mary’s NHS Trusts. Funded and accountable to the North Thames Paediatric Intensive Care Commissioning Group through Great Ormond Street NHS Trust.