Preamble

Definition: on-going or recurrent clinical or sub-clinical seizure activity for more than 30 minutes

Status Epilepticus is a life threatening condition where prolonged seizures >30 minutes can cause neuronal death and may result in serious neurological sequelae

Applicable in children >1 month of age

Treatment of seizure should start if no spontaneous resolution after 5 minutes or if evidence of cardio-respiratory compromise

References


At 0 min

On presentation to hospital, initiate ABCs:
A - support airway
B - 100% oxygen, assess ventilation, Spo2 monitor
C - cardiorespiratory monitor, check pulses, establish IV access

- History (AMPLE)
- Investigations - glucose, electrolytes, calcium, magnesium, blood gas, medication levels, +/- toxin screen, +/- metabolic screen
- Cultures and antibiotics as appropriate
- Suspect and treat raised ICP as needed, CT scan when warranted
- Keep normothermic, acetaminophen/ibuprofen as appropriate

At 5 min

Lorazepam 0.1 mg/kg IV/IO, max 4 mg

IV access?

Yes

Lorazepam 0.1 mg/kg, IM/SC or Diazepam 0.5mg/kg PR, max 10mg

No

Consider IO if difficult IV access

Lorazepam 0.1 mg/kg, IM/SC or Diazepam 0.5mg/kg PR, max 10mg

At 10 min

Lorazepam 0.1 mg/kg IV/IO, max 4 mg

At 15 min

Phenytoin 20 mg/kg IV/IO, max 1 g, over 20 minutes, in 0.9% NaCl (NS)

2nd Line

At 25 min

Phenobarbital 20 mg/kg IV/IO, max 1 g, over 5-10mins

At 35 min

Midazolam 0.15 mg/kg IV bolus, then 2 mcg/kg/min by IV infusion

3rd Line

Midazolam increase by 2 mcg/kg/min q 5 min, 0.15 mg/kg bolus as needed, max 24 mcg/kg/min or 20 mg/hr

Early referral to PICU if any of following:
- airway/ventilation/cardiovascular compromise
- seizure refractory to 2nd line medications
- seizure >30 minutes
- initiating Midazolam or Thiopental infusion

Midazolam taper by 1 mcg/kg/min q 30 mins

If stops x 48 hrs

Midazolam taper by 1 mcg/kg/min q 30 mins
At 90 min

**Thiopental** 4 mg/kg IV bolus, then 1 mg/kg/hr IV infusion
Discontinue Midazolam Infusion

**Thiopental**
- increase by 1 mg/kg/hr q 30 min, 2 mg/kg bolus as needed, max 6 mg/kg/hr
- taper by 25% q 12 hrs

**Ongoing management:**
- Appropriate monitoring – continuous BP monitoring, consider arterial and central venous lines
- Neurology consult essential with refractory cases
- Continuous EEG monitoring, therapy based on electrographic suppression of seizure activity
- Can discontinue Midazolam and Phenobarbital maintenance once Thiopental started
- Monitor for cardiovascular compromise with midazolam/thiopental infusion. Consider vasoconstrictor support.
- If difficulty weaning Thiopental, then restart Midazolam infusion during wean
- Consider Pyridoxine 100mg IV if under 18 months old
- Maintain therapeutic drug levels
- Continue baseline antiepileptics when possible