Proposed Algorithm for Convulsive Status Epilepticus

From "Treatment of Convulsive Status Epilepticus in Children and Adults," Epilepsy Currents 16.1 - Jan/Feb 2016

Time Line

0-5 Minutes Stabilization Phase

5-20 Minutes Initial Therapy Phase

20-40 Minutes Second Therapy Phase

> 40-60 Minutes Third Therapy Phase

AMERICAN EPILEPSY SOCIETY

Interventions for emergency department, in-patient setting, or prehospital setting with trained paramedics

- 1. Stabilize patient (airway, breathing, circulation, disability neurologic exam)
- 2. Time seizure from its onset, monitor vital signs
- 3. Assess oxygenation, give oxygen via nasal cannula/mask, consider intubation if respiratory assistance needed
- 4. Initiate ECG monitoring
- Collect finger stick blood glucose. If glucose < 60 mg/dl then Adults: 100 mg thiamine IV then 50 ml D50W IV Children ≥ 2 years: 2 ml/kg D25W IV Children < 2 years: 4 ml/kg D12.5W IV
- 6. Attempt IV access and collect electrolytes, hematology, toxicology screen, (if appropriate) anticonvulsant drug levels

YES

Does Seizure Continue?

NO ___

If patient at baseline,

then symptomatic

If patient at baseline,

then symptomatic

medical care

medical care

A benzodiazepine is the initial therapy of choice (Level A):

Choose one of the following 3 equivalent first line options with dosing and frequency:

- Intramuscular midazolam (10 mg for > 40 kg, 5 mg for 13-40 kg, single dose, Level A) OR
- Intravenous lorazepam (0.1 mg/kg/dose, max: 4 mg/dose, may repeat dose once, Level A) OR
- Intravenous diazepam (0.15-0.2 mg/kg/dose, max: 10 mg/dose, may repeat dose once, Level A)

If none of the 3 options above are available, choose one of the following:

- Intravenous phenobarbital (15 mg/kg/dose, single dose, Level A) OR
- Rectal diazepam (0.2-0.5 mg/kg, max: 20 mg/dose, single dose, Level B) OR
- Intranasal midazolam (Level B), buccal midazolam (Level B)

YES

Does Seizure Continue?

NO

There is no evidence based preferred second therapy of choice (Level U):

Choose one of the following second line options and give as a single dose

- Intravenous fosphenytoin (20 mg PE/kg, max: 1500 mg PE/dose, single dose, Level U) OR
- Intravenous valproic acid (40 mg/kg, max: 3000 mg/dose, single dose, Level B) OR
- $\, \cdot \,$ Intravenous levetiracetam (60 mg/kg, max: 4500 mg/dose, single dose, Level U) If none of the options above are available, choose one of the following (if not given already)
 - Intravenous phenobarbital (15 mg/kg, single dose, Level B)

Does Seizure Continue?

NO

There is no clear evidence to guide therapy in this phase (Level U):

Choices include: repeat second line therapy or anesthetic doses of either thiopental, midazolam, pentobarbital, or propofol (all with continuous EEG monitoring)

If patient at baseline, then symptomatic medical care

Disclaimer: This clinical algorithm/guideline is designed to assist clinicians by providing an analytic framework for evaluating and treating patients with status epilepticus. It is not intended to establish a community standard of care, replace a clinician's medical judgment, or establish a protocol for all patients. The clinical conditions contemplated by this algorithm/guideline will not fit or work with all patients. Approaches not covered in this algorithm/guideline may be appropriate.

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