Unusual cause of status epilepticus

Karthika.S
DNB P.G
Mehta Children’s Hospital
• 16 yr old adolescent girl

• Returned home from school and found to be in altered level of consciousness when mother returned from work

• Had 2 episodes of vomiting- red colored ?hematemesis
Taken to nearby hospital
developed seizures
loaded with phenytoin but seizures persisted
O/E:

- In Mehta E.R,
- Status epilepticus with irregular respirations
- Afebrile
- HR-132/min
- GCS- E1 V2 M3
- Pupils-2mm, ERL
Course:

- Received 2 doses of lorazepam
- Loaded with fosphenytoin
- Seizures settled
- In view of irregular respirations, intubated and ventilated
Based on the colour of gastric aspirate, she was referred as having variceal bleed.
Girl with sudden onset of ALC with seizures over a span of few hours
Discussion - Possibilities

- Unidentified injury
- Unwitnessed seizures
- Poisoning
- Cerebro vascular accident
- Envenomation
- No environmental clues
- Possible
- Possible, Medicines at home
- Less likely, No pupillary change or focal signs
- Did not go out
CT brain done was normal which excluded CVA and TBI
Convulsions - poisoning

- **Toxic substances:** Gammexane, OPC, camphor, neem oil
- **Drugs:** TCA, theophylline, Oral antidiabetic, INH
Workup:

CBG: 200 mg  Urine Ketones: Nil  ECG: Normal
S.Lactate - 32

- No tachycardia, pupillary dilatation
- ABG shows wide anion gap metabolic acidosis
Common cause of poisoning with

Metabolic acidosis
Hyperglycemia
Seizures - intractable
Urine

Gastric aspirate

Any clues??
D/D:

**TCA**
no arrhythmias, convulsions present

**IRON**
hyperglycemia and wide anion gap acidosis
rarely seizures
S.Iron levels - WNL

**ISONIAZID**
NG aspirate, serum and urine sample for ISONIAZID AND RIFAMPICIN quantitative analysis – strongly Positive
Course:

- Treated with IM and oral pyridoxine (total of 3g) g/g dose
- Extubated after 36 hours
- AEDS changed to levitracetam- enzyme interaction between phenytoin and INH
- After recovery- h/o ingestion of 30 tabs(9g) of INH/RIFAMPICIN
- Mother treated with ATT for cervical lymphadenopathy 6months back
• She subsequently recovered and discharged on advice to follow up with psychiatrist....
Isoniazid poisoning

- California Poison Control System -5.9% were due to INH.
- From 1993-1997, 1320/2419 (54%) – aged<19 years with 2/8 deaths.
- All pediatric mortality resulted from suicidal ingestion.
- Toxic dose > 40 mg/kg of INH
- Severe CNS symptoms - 80-150 mg/kg
INH-induced seizure - decrease availability of GABA. INH metabolites - isoniazid hydrazones, inhibit pyridoxine phosphokinase which converts pyridoxine (vitamin B-6) to its active form, pyridoxal-5-phosphate. Pyridoxal-5-phosphate - required for GABA synthesis

Lactic acidosis - due to inhibition of LDH which converts lactate to pyruvate
Signs and symptoms

• usually symptomatic within 30-45 minutes.
• nausea, vomiting, diarrhea, irritability, lethargy, vague abdominal pain, confusion, dizziness
• INH > 200 mg/kg produces clinical triad: refractory seizures
  increased AG metabolic acidosis
  coma
Treatment

- Stabilise A, B, C
- Asymptomatic after 4 hours with ingestion < 20 mg/kg - supportive treatment
- Acute neurotoxicity (seizure, coma) - administer pyridoxine immediately
- Benzodiazepines & barbiturates preferred. Avoid phenytoin – drug interaction
- Gastric lavage and activated charcoal
Take home message

- Any sudden LOC consider poisoning as D/D
- Hyperglycemia, metabolic acidosis and seizures - think of INH toxicity
- In case of nonavailability of IV, IM/oral(NGT) pyridoxine is equally effective
- Caution - phenytoin