

Pyridoxine in Management of Super-Refractory Status Epilepticus: A Case Report

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INTRODUCTION

- ❑ Super-refractory status epilepticus (SRSE) is status epilepticus that has recurred within or persisted for more than 24 hours after initiation of intravenous anaesthetic medication. It carries a high risk of morbidity and mortality.
- ❑ Typically, pyridoxine responsive or dependent seizures are considered in neonates with persistent seizures but have very rarely been reported in older children and even adults.
- ❑ We report a case of super-refractory status epilepticus (SRSE) that stopped only after the use of pyridoxine.

AIM



Raise awareness on super-refractory status epilepticus and propose the addition of pyridoxine to all status epilepticus management guidelines.

CASE

VE, a 9-year-old girl was referred to our facility with low grade fever and 2 episodes of non-projectile vomiting the previous day and continuous convulsions of 9 hours prior to presentation. There was a history of a single afebrile seizure two years earlier.

She had neonatal jaundice and required exchange blood transfusion. She walked at 2 years and had aphasia.

EXAMINATION: She had ongoing clonic seizure, microcephaly, and weight at 5th centile of CDC chart.

INVESTIGATIONS:

- Sepsis screen including CSF culture, malaria parasite tests, serum electrolytes, blood sugar, magnesium and liver function tests were normal.
- Brain MRI revealed cerebral atrophy and encephalomalacia with no acute changes.

TREATMENT:

- Intravenous phenytoin, phenobarbitone, oral levetiracetam and clonazepam added in succession with no response.
- Empirical antibiotics and antimalarial received.
- Continuous thiopental sodium infusion incrementally for over 72hrs without resolution.
- Seizures stopped within 24 hours of oral pyridoxine 100mg.
- She had feeding difficulty and lost all motor milestones requiring weeks of rehabilitation.

DISCUSSION

- ❑ SRSE complicates 10-15 % of SE often with high morbidity and mortality.
- ❑ It is encountered in patients with severe acute brain injury or those with idiopathic status epilepticus (no previous epilepsy).
- ❑ Pyridoxine dependent epilepsy (PDE) typically presents in the first year of life with drug resistant epilepsy hence its inclusion in SE algorithms in children <2 years of age.
- ❑ It is unclear whether the child had a late presentation of genetic PDE or a symptomatic deficiency state as investigations were limited.
- ❑ Severe malnutrition which could lead to symptomatic deficiency was not present in VE.
- ❑ A few adult literatures have reported seizures due to pyridoxine deficiency states all with identifiable triggers such as drugs (anti-tuberculosis), uremia or cirrhosis.
- ❑ Due to unavailability of parenteral formulation, oral pyridoxine was used with the same desired outcome.



- Serum pyridoxine level and genetic testing for ALDH7 were not done.
- a single case report.

CONCLUSIONS

- ❑ Super-refractory status epilepticus warrants meticulous care due to its high morbidity and mortality.
- ❑ The addition of pyridoxine, a simple non-toxic vitamin in treatment protocol for status epilepticus may prevent the occurrence of this potentially fatal complication.

REFERENCES

1. Shorvon S, Ferlisi M. The outcome of therapies in refractory and super-refractory convulsive status epilepticus and recommendations for therapy. *Brain*. 2012;135:2314–28.
2. Pugin D, Foreman B, Marchis GM De, Fernandez A, Schmidt JM, Czeisler BM, et al. Is pentobarbital safe and efficacious in the treatment of super-refractory status epilepticus : a cohort study. *Crit care*. 2014;18.
3. Novy J, Logroscino G, Rossetti AO. Refractory status epilepticus : A prospective observational study. *Epilepsia*. 2010;51(2):251–6.
4. Shorvon S. Super-refractory status epilepticus : An approach to therapy in this difficult clinical situation. *Epilepsia*. 2011;52:53–6.
5. Baxter P. pyridoxine-dependent and pyridoxine-responsive seizures. *Dev Med Child Neurol*. 2001;43:416–20.

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