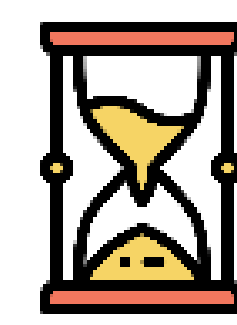


HIGH DOSE PHENOBARBITAL COMA IN PAEDIATRIC REFRACTORY STATUS EPILEPTICUS

Background and importance

Status Epilepticus (SE) ↑ morbimortality



Early treatment ↓ death and sequelae

⊗ When first-line drugs cannot solve SE therapeutic coma should be initiated with

- Midazolam (+ used)
- Propofol / Thiobarbital
- Phenobarbital (PHB) (✓ therapeutic profile, low evidence especially in children)

Aim and objectives

🎯 Describing High-Dose PHB (HD-PHB) used in therapeutic coma in paediatric refractory SE and their side effects.

🎯 Assess Therapeutic Drug Monitoring (TDM) to achieve Barbiturate Coma (BC).

Material and methods

🔍 Observational retrospective study

🏥 Referral paediatric hospital 📅 2012-2022

👍 51 paediatric intensive care unit patients who received intravenous (IV) PHB:

➔ 6 of them underwent BC

Variables collected:

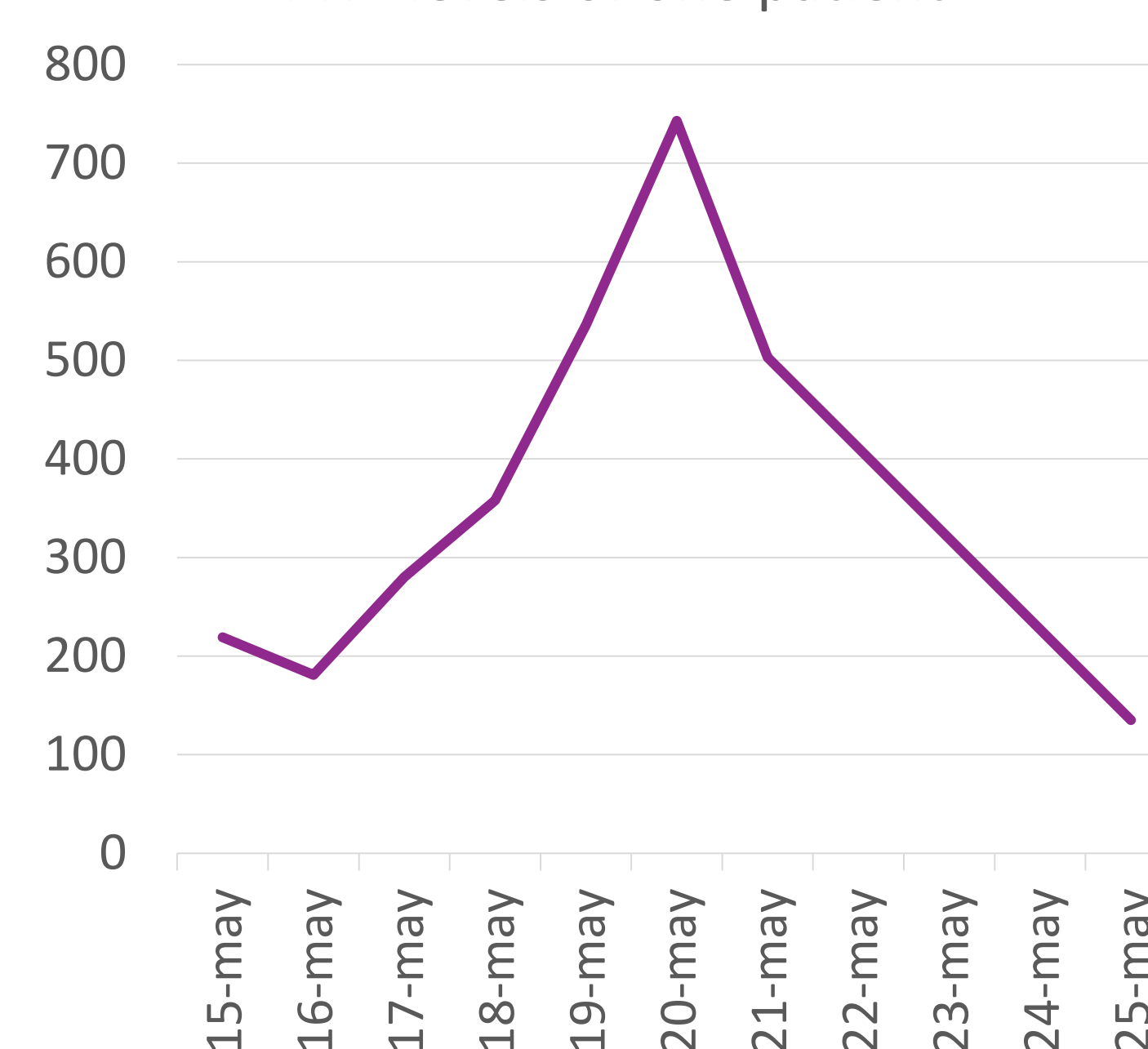
Age	PHB plasmatic levels during coma
Weight	BC days until resolution of SE
Nº of previous antiepileptics	Adverse effects of HD-PHB
Loading and maintenance doses of PHB	Outcome

Results

6 patients with seizures refractory to propofol or midazolam received HD-PHB to achieve BC.

Age 9 years [0,2-14,5]	Weight 20,2kg [6,8-68]	Nº previous antiepileptics 3 [2-5]
PHB loading dose 60mg/kg/day [50-125]	PHB levels in BC 943µmol/L [743-1883]	PHB maintenance doses 10mg/kg/12h [2-20]
Days in coma 4,5 days [1-6]	Glasgow scale Before BC: 9 [7-13] During BC: 3 [2-5]	

PHB levels of one patient



➔ Resolution of the status was evaluated by electroencephalogram.

➔ A suppression burst was observed in all of them.

➔ Tapering regimen was carried out until PB plasma levels were <350µmol/L.

➔ One patient died within 6 months post-coma.

Adverse effects	Haematological	5 patients	↓ Haemoglobin ↓ Haematocrit
	Hepatic	2 patients	↑ transaminases

Conclusion and relevance

✓ HD-PHB seems to be an effective therapeutic procedure in paediatric refractory SE.

✓ TDM is important to ensure the maintenance of coma and avoid toxicity.

✓ More pharmacokinetic studies are needed to establish a population model and clear protocols for BC management.

