## 4CPS-342 TRANSIENT VALPROIC ACID TOXICITY: HYPERAMMONAEMIA IN A PAEDIATRIC PATIENT

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**Background and importance** Hyperammonaemia is known as a metabolic disturbance due to deficiency of some enzymes of the 'urea cycle', a biochemical process where nitrogenous products are purified from the organism and whose accumulation leads to neurological disorders, vomiting, seizures, coma and death.
**Aim and objectives** To evaluate the evolution and response after administration of corrective treatment in a 5-month-old paediatric patient diagnosed with epilepsy who developed hyperammonaemia secondary to high doses of valproic acid (VA).
**Material and methods** To reverse hyperammonaemia, the patient's status epilepticus, the frequency of seizures, ammonium levels (µg/dL) and VA (µg/mL) were monitored.
**Results** Because of persistence of seizures, intravenous VA treatment was started, initially at a bolus dose of 400 mg and subsequent infusion of 20 mg/kg (rate 1 mg/kg/hour). The rate of infusion should increase 10 hours after the start of treatment at 1.5 mg/kg/hour, controlling the crisis and performing sequential therapy with oral VA at 40 mg/kg/8 hours. Later, cloning and disconnection episodes were again evident, forcing monitoring of VA levels and assessment of the general state. Hyperammonaemia was diagnosed, with levels of 140 µg/dL of blood ammonia (reference range 29–70 µg/dL), There was clinical and therapeutic agreement with VA levels of 113 µg/mL (range 50–100 µg/mL).

The paediatric critical care unit consulted the pharmacy unit to advise on detoxification treatment, suggesting arginine (0.15–0.4 g/kg/day), carnitine (20 mg/kg/day) and N-carbamyl glutamate (100 mg/kg/day), reserving phenylbutyrate as a corrective treatment. Toxic and analyte levels progressively improved (103 µg/dL of ammonia and 47.3 µg/mL of VA), allowing the use of phenylbutyrate to be postponed. After an approximate 20% reduction in ammonia (86.3 µg/dL), treatment was interrupted, except for carnitine and levetiracetam. Finally, stabilisation of the epileptic seizures was achieved, maintaining normal ammonia levels, and he was discharged from hospital with outpatient treatment based on oxcarbazepine and levetiracetam.
**Conclusion and relevance** Medication overdose to reverse a particular situation can trigger unexpected toxic conditions, which could cause organic or metabolic alterations. An adequate pharmacotherapeutic follow-up could avoid risk situations, especially in the paediatric population.

### REFERENCES AND/OR ACKNOWLEDGEMENTS

1. Special thanks to the paediatric and emergency units.

**Conflict of interest** No conflict of interest

## 4CPS-343 PREGABALIN AND GABAPENTIN DRUG UTILISATION REVIEW

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**Background and importance** The Health Service Executive Medicines Management Programme has highlighted the need for vigilance when prescribing and dispensing pregabalin or gabapentin as both drugs have a risk of addiction and a potential for misuse/abuse. A recent systematic review found that reports of pregabalin and gabapentin abuse are increasingly being documented worldwide.[1]
**Aim and objectives** To examine the pharmacy supply of pregabalin/gabapentin over the past 4 years to determine if usage has increased; and to assess if pregabalin/gabapentin is being initiated for patients inhouse, what doses are being used and if prescribed for epilepsy.
**Material and methods** Reports on pregabalin/gabapentin use in the previous 4 years were generated from the pharmacy information system. A 1 day hospital-wide review of pregabalin/gabapentin prescribing was conducted in August 2018. A data collection form was designed to collect information on the number of patients prescribed pregabalin or gabapentin, the dose prescribed, if treatment was started prior to hospital admission and if the patient had a history of epilepsy. Clinical pharmacists completed the data collection by examining the drug chart and the medical notes.
**Results**

- Hospital usage of pregabalin and gabapentin increased by 7% and 16%, respectively, from 2015 to 2018.
- 588 inpatient drug charts were included.
- 53 patients were prescribed pregabalin, 1 of whom had a history of epilepsy. 83% of pregabalin prescriptions were initiated before hospital admission.
- 45 patients were prescribed gabapentin. Five patients had a history of epilepsy. 47% of gabapentin prescriptions were initiated before hospital admission.

**Conclusion and relevance** Hospital prescribing of pregabalin and gabapentin has increased since 2015. The high rate of gabapentin initiation reflects the hospital postoperative pain guidelines. In contrast, most patients were commenced on pregabalin prior to hospital admission. The results suggest that pregabalin and gabapentin are rarely prescribed for epilepsy. These results were disseminated to the Drug and Therapeutics Committee. Interventions for appropriate use will be explored. This review will provide baseline data for which future reviews can be compared against.

### REFERENCES AND/OR ACKNOWLEDGEMENTS

1. Evoy K, Morrison M, Saklad S. Abuse and misuse of pregabalin and gabapentin. *Drugs* 2017; **77**: 403–26

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## 4CPS-344 PRESCRIPTION AUDITING OF THE 3 MONTHLY FORMULATION OF PALIPERIDONE PALMITATE IN ADULT PATIENTS WITH SCHIZOPHRENIA

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**Background and importance** The 3 monthly formulation of paliperidone palmitate (3MPP) was introduced to the Italian market in 2017 for the treatment of schizophrenia in adult patients.