B) BRIEF CASE REPORTS

Continuous venovenous haemodiafiltration as a solution for serious sodium valproate intoxication

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Dear Editor,

Sodium valproate is an antiepileptic drug also used in situations of acute mania and prophylaxis of bipolar disorder. Although acute valproate poisoning often causes a mild, self-limiting depression of the CNS, serious toxicity and death have been encountered.

Extracorporeal drug clearance is indicated for clinically severe overdose that does not improve with other, less invasive measures. Theoretically, the low molecular weight (144 Daltons) and low volume of distribution suggest a benefit from extracorporeal therapy, even if valproate has a high degree of binding to serum proteins. However, at values above 100μg/ml the protein binding sites become saturated and there is an increase of levels of free drug that can be quickly filtered using a dialysis membrane. It also has the benefit of reversing the metabolic acidosis associated with toxic levels of valproate. A limited number of cases in the literature describe the use of haemodialysis or haemoperfusion in the treatment of valproate overdose, so a description of this case is quite important and relevant.

A 62 year-old female patient, with a history of depressive psychiatric disorders, suicidal thoughts and atrial fibrillation. She received outpatient treatment with sertraline, diazepam, lorazepam, warfarin and amiodarone. She was admitted to hospital emergency on 28 November 2008, through the emergency service (112), due to ingesting 60 x 500mg sodium valproate tablets (> 200mg/kg) within the previous 12 hours. She was in a coma of 3 on the Glasgow Coma Scale (GCS). Generalised hypotonia. Mydriatic pupils reactive to light. Extremities cold and cyanotic. Hypothermia. Eupneic. Hypotensive. Heart rate of 67bpm. Serum therapy and amine treatment was started.

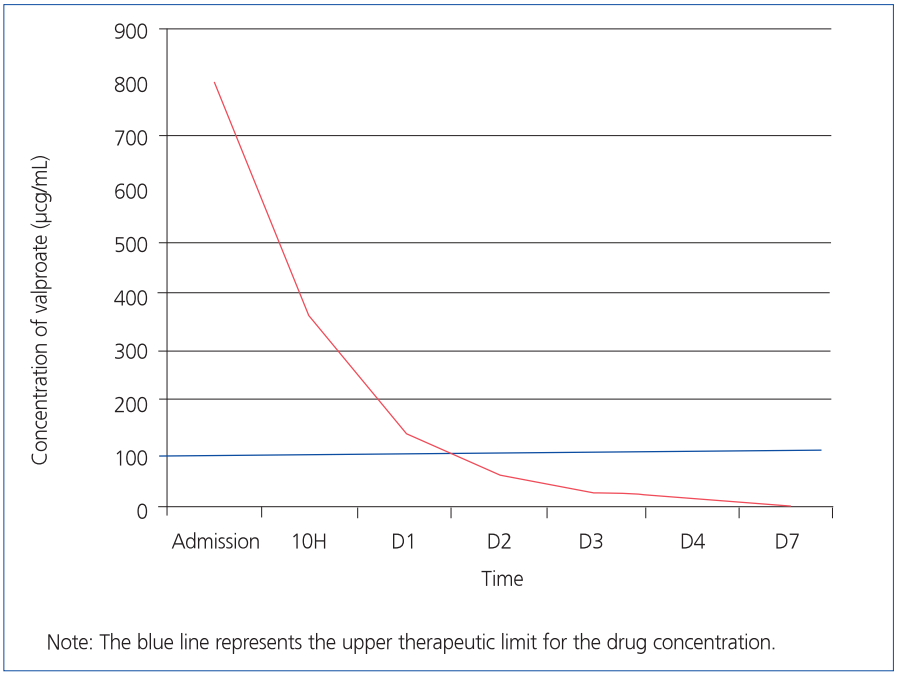

Figure 1. . Evolution of valproate with CVVHDF levels.

Analytically, there was slight leukocytosis (12,720) and metabolic acidosis (pH 7.21). Electrolytes, calcium, phosphorus, kidney and liver function without alterations.

Levels of benzodiazepines in the urine were negative and blood valproate was requested.

She was taken to the intensive care unit for respiratory depression and due to elevated serum sodium valproate (> 600mg/ml). She was intubated and connected to mechanical ventilation.

Carnitine treatment was started at a dose of 1g IV every 8 hours, 60mL activated charcoal every 4 hours and continuous venovenous haemodiafiltration (CVVHDF) with blood pump 200mL/min; dialysate flow rate of 1,500mL/h; replacement fluid flow 1,500mL/h, heparin; PRISMA®.

After 48 hours and after maintaining a good urine output, diafiltration was stopped and a significant decrease in blood levels of valproate was found.

Table 1. Evolution of valproate in blood

Date	28/11	28/11	29/11	30/11	1/12	2/12	5/12
Time	(14,14 h)	(23,46 h)	(10 h)	(10 h)	(10 h)	(10 h)	(10 h)
Concentration of valproate > 600 (50/100 µg/mL)	360.05	137.58	63.29	28.16	13.65	4.45	

Despite having preserved kidney function, there were no complications due to the CVVHDF technique (Table 1).

As can be seen in the table, therapeutic levels of valproate were reached after 48 hours CVVHDF. More than 99% of drug was removed from serum levels after 5 days thanks to the treatment given, which included continuous kidney clearance (Figure 1).

On the third day of admission there were clinical, analytical and radiological alterations indicative of the existence of nosocomial pneumonia. *Staphylococcus simulans* and *Staphylococcus aureus* were isolated from bronchial secretions, so antibiotic therapy with levofloxacin was initiated. After 4 days of treatment and haemodynamic and metabolic stability, she was transferred to the internal medicine service, with psychiatry support. She was discharged from the internal medicine service on 15 December 2008.

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3. Wilcox, et al. Therapy in Nephrology & Hypertension: a companion to Brenner & Rector's. The Kidney, 2008.
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Fulminant sclerosing peritonitis: dramatic response to steroid treatment

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Dear Editor,

Encapsulating peritoneal sclerosis is a rare complication of peritoneal dialysis (PD). One of its variants, fulminant sclerosing peritonitis (FSP), evolves in a hyperacute form after an episode of bacterial peritonitis. It is a clinical profile regarded with a high index of suspicion and early initiation of steroid treatment, which usually gives a positive, quick and dramatic response. We describe 5 FSP cases with significant clinical improvement after steroid therapy.

We reviewed the medical records of 164 patients receiving PD in Neuquén, Argentina, between 1996 and 2008. Nine of them had symptoms compatible with encapsulating peritoneal sclerosis (5.38%), five of whom corresponded to the variant EPS. Four were women, with an average age of 40 years, PET average low, average high or high; time on PD 3-7 years, 2 patients with a previous history of peritonitis. All had episodes of peritonitis to common germs immediately before the reference symptoms, which is usually characterised by severe impairment, bloating, abdominal pain, fever, diarrhoea, intestinal hypomotility and vomiting. Complementary studies (CT): variable peritoneal thickening, adhesions, calcium deposits, loculations, fibrous tracts, blurring of fat. Some were normal.

Initial therapy: ATB according to sensitivity, catheter extraction, laparotomy and extensive washing.

Evolution: severely affected, systemic inflammatory response syndrome (SIRS) without response to treatment. One patient developed distributive shock and required mechanical ventilation.

Peritoneal biopsies (3 cases): variable peritoneal thickening, hyalinosis, calcifications, necrosis, abscesses, fibrosis, inflammatory infiltrates, consistent with sclerosing peritonitis.

Prednisolone was given to all patients p.o. 1mg/kg/day or IV methylprednisolone pulses, with immediate noticeable improvement in the clinical profile. One patient had gastrointestinal bleeding, was changed to sirolimus and died from hospital pneumonia after the abdominal profile was resolved.

Encapsulating peritoneal sclerosis is a serious complication of PD. Early reports considered it lethal.[1] The prevalence varies according to different authors, from 0.7% increasing during treatment to reach 19.4% in those with more than 8 years.[2] Among the risk factors are the following: time on PD,[2] severe peritonitis, and especially infection by *Staphylococcus aureus*, fungi and *Pseudomonas*, the number and severity of each episode[3-5] and solutions with a high glucose content. A large percentage of cases developed slowly after stopping PD and transferring to HD.[4] In other cases, a continuation of severe bacterial peritonitis followed, as a second phase phenomenon, and acquired the features of fulminant sclerosing peritonitis.[6]

The term sclerosing peritonitis is used to demonstrate the infectious component/acute inflammation shown, and the expression encapsulating peritoneal sclerosis to describe a slow and progressive form of the disease.

We used immunosuppressive treatment in 5 patients with FSP, with a dramatic remission in the symptoms and normalisation of the intestinal transit in less than 72 h. There was only one death, after resolution of the abdominal profile, due to lung intercurrences.

Treatment lasted for 6 months, in decreasing doses until reaching 20mg/day of prednisolone. It was subsequently suspended, without recurrence of the clinical profile. The