Carnitine

L-carnitine has a reasonable biological basis to treat the metabolic effects 2⁰ to valproate toxicity, but strong evidence supporting clinical efficacy is limited

Indications

May be considered in valproate (VPA) poisoning as an adjunct to standard management if any of the following are present:

- *VPA-induced hepatotoxicity*
- *hyperammonaemia (NH_3 > 100 mmol/L)*
- *encephalopathy/cerebral oedema*
- *worsening metabolic acidosis*
- *patients requiring haemodialysis as part of the management of valproate toxicity*

Contraindications

Previous hypersensitivity reactions to L-carnitine

Adverse Effects

Limited information but reports of:

- GI upset/diarrhoea
- 'fishy body odour'
- seizures
- tachyarrhythmias
- hypotension

Presentation

1 g/5 mL vial

Dose and Administration (discuss use with a Clinical Toxicologist)

*L-carnitine dosing is NOT well-defined in valproate poisoning.

A typical dosing schedule is as follows:

- Dilute each dose in 100 mL 0.9% saline and infuse over 30 min.
- Diluted made-up solutions are stable at room temperature for 24h.
- 100 mg/kg IV loading dose (max 6 g)
- 50 mg/kg IV every 8 hours (max 3 g per dose)

Therapeutic Endpoint:

Poorly defined

Consider when clinically improving and ammonia concentration decreasing

Pregnancy

Limited data to draw any conclusions regarding safety but animal studies show no increase in congenital abnormalities. Discuss with Clinical Toxicologist the risk/benefit.