Hydroxocobalamin

Hydroxocobalamin is an effective cyanide chelator and is largely devoid of serious adverse effects. It is used first line in treating suspected cyanide toxicity.

Indications

Suspected / known cyanide poisoning with evidence of significant clinical toxicity, which may include:

- *Loss of consciousness / seizures*
- *CVS instability, hypotension, arrhythmias*
- *Metabolic acidosis with raised lactate (>10)*

Refractory vasoplegia

Contraindications:

- No absolute contraindications

Adverse effects:

- Red or orange discoloration of bodily fluids and skin, which can last 2-3 days
- Hypertension
- Rare: urticaria, oedema, anaphylaxis, bradycardia and tachycardia have all been reported
- May interfere with colorimetric measurements: (eg COHb, AST, CK, bilirubin, iron, Mg, lactate)
- May trigger blood leak alarm in haemodialysis circuit

Presentation

- "Cyanokit" containing 5 g of IV hydroxocobalamin

Dose and Administration

***Adult dose*:**

- Reconstitute 5 g in 200 mL of normal saline (add normal saline to the vial)
- Invert or rock the vial, avoid shaking
- Infuse intravenously over 15 minutes
- Dose can be repeated (30 to 60 min later) up to a maximum of 15 g in cases of severe toxicity

***Paediatric dose*:**

- 70mg/kg up to 5 g diluted in 0.9% sodium chloride 2.8ml/kg up to 200ml given over 15 minutes

Hydroxocobalamin is incompatible with sodium thiosulphate: DO NOT administer through the same line

Therapeutic Endpoint:

- Improvement in CVS status and metabolic markers of toxicity (increased bicarbonate / pH, decreased lactate)

Pregnancy:

- No contraindication to use in pregnant patients with known or suspected significant cyanide toxicity