

HIET is indicated for calcium channel blocker poisoning and other cardiovascular toxins resistant to first-line therapy

HIET is an inotrope & can be used alone or in combination with standard catecholamine inotropes

- HIET is NOT a pressor or a chronotrope

- Bradycardia or peripheral vasodilation with

CVS compromise requires standard inotrope Rx

Indications

Haemodynamic compromise in:

- **Calcium channel blocker poisoning**

- **Beta Blocker poisoning resistant to fluid and epinephrine**

- **Other poisonings causing refractory shock**

Contraindications:

- None

Adverse effects:

- Hypoglycaemia

- Hypokalaemia

- Mild vasodilation

Only administered in a critical care setting and in consultation with a Clinical Toxicologist.

Preparation

- 500 units short-acting insulin in 50 mL normal saline (10 units/mL)

- place in a 50mL syringe in a syringe driver

NB: avoid using fluid bags for long insulin infusions due to absorption of insulin to the plastic

Dose and Administration

a. 50 mL of 50% glucose as slow IV bolus FOLLOWED BY an initial infusion of 100 mL 10% glucose / hour
(in children: 2.5 mL/kg of 10% glucose as slow IV bolus FOLLOWED BY infusion 3-5 mL/kg/hour 10% glucose)

- if blood glucose is > 15 mmol/L, a bolus is not required

b. 1 unit/kg IV short-acting insulin bolus FOLLOWED BY 1 unit/kg/hour infusion

- Titrate to effect every 15 min up to 5 units/kg/hour over first hour

- Can be titrated up to a maximum of 10 units / kg / hour as required

c. Maintain glucose between 5.5 – 11.0 mmol/L (may need higher glucose concentrations via CVC)

d. Maintain K⁺ between 2.8 – 3.3 mmol/L

Check glucose and K⁺ every 15 minutes initially

Therapeutic Endpoint:

Wean after cardiovascular toxicity resolves by 1 unit/kg/hour

- In the case of calcium channel blockers, this is often indicated by increasing dextrose requirements

Dextrose and K⁺ infusions may still be required after insulin is reduced until insulin totally eliminated.

Pregnancy: Insulin is safe in pregnancy