Pyridoxine (Vitamin B6) for Isoniazid Toxicity

Pyridoxine is used for the treatment of isoniazid-induced seizures

The active form of pyridoxine is a necessary cofactor for the formation of GABA.

Isoniazid (and other hydrazines) inhibit the conversion of pyridoxine to its active form, resulting in decreased GABA, and subsequent seizures.

Indications:

Isoniazid toxicity (coma, refractory seizures, metabolic acidosis)

Other hydrazines (less common)

- Industrial hydrazines
- Gyromitrin-containing mushrooms

Contraindications:

Known allergy

Adverse effects:

Peripheral neuropathy if large doses for long periods

Presentation

250 mg/5 mL (50 mg/mL)

Dose and Administration (discuss use with a clinical toxicologist)

Dose: administer an equivalent dose of pyridoxine to match the reported ingested dose of isoniazid to a maximum of 5 grams in adults (5 grams = 20 of the 250 mg/5 mL vial) or 70 mg/kg (children) of pyridoxine.

If the ingested isoniazid (or other hydrazine) dose is unknown administer 5 grams (70 mg/kg paediatric) of pyridoxine

- Administer pyridoxine undiluted via an infusion pump at 500 mg per minute (10 mL/min) until seizures cease.
- If seizures cease, the remainder of the pyridoxine can be infused over 4 hours.
- The pyridoxine dose of 5 grams can be repeated if seizures are not terminated after initial dosing (after 10 min).
- If the IV preparation of pyridoxine is not available, pyridoxine tablets can be crushed and given via NGT in a slurry, using the same dose
- Benzodiazepines and barbiturates can be used to control seizures but should not be used as monotherapy. Benzodiazepines and barbiturates can, however, have a synergistic effect to pyridoxine and are advised to be administered whilst pyridoxine is being sourced.

Therapeutic Endpoint:

Cessation of seizures

Pregnancy:

The use of pyridoxine should not be withheld if the potential benefit outweighs any potential risk