

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
- May reduce effectiveness of levodopa

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 vials) or 70 mg/kg (children) of pyridoxine.

If the ingested isoniazid dose is unknown, administer 5 grams (adults) or 70 mg/kg (children) of pyridoxine.

If used for hydrazine poisonings other than isoniazid, administer 5 grams (adults) or 70 mg/kg (children).

If the ingested isoniazid dose is unknown administer the entire 5 g vial 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).

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.

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.

Therapeutic Endpoint:

Cessation of seizures

Pregnancy:

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