Anticipated Pyridoxine Shortage

The Poison Centre has become aware of an anticipated pyridoxine shortage. In communication with Mylan Pharmaceuticals (verbal communication on July 2, 2019), it is known that the 1 mL single dose vials containing 100 mg pyridoxine hydrochloride injectable are in good supply. However, the remaining multi-use 30 mL vials of 100 mg/mL of pyridoxine hydrochloride injectable are available for purchase but have a short expiry date of end of July 2019. The company had no information as to when a better supply will be available.

Pyridoxine is indicated in toxicology for the treatment of patients with isoniazid (INH) overdoses in the dose of 5 g (or 1 g/g drug ingested). Empiric dosing of 5g is indicated for monomethylhydrazine (MMH), (Gyromitra mushroom) or hydrazine exposures. Seizures from these substances might be amenable to benzodiazepine treatment. In this time of pyridoxine shortage, high dose pyridoxine should be reserved for those patients with these rare exposures who are resistant to usual benzodiazepine, phenobarbital, propofol loading. (Please note that phenytoin compounds are not indicated for toxic seizures).

The indication for the use of pyridoxine in ethylene glycol poisonings is soft and its efficacy is not well-documented in human literature. The more important therapies in ethylene glycol poisonings include early blockade of alcohol dehydrogenase and dialysis. The dosing of pyridoxine for this indication is a mere 50-100 mg q6h. The single dose vials of 100 mg/mL can be used for this purpose, if recommended by the poison centre. There is also documentation in the literature that oral pyridoxine (vitamin B6) is well absorbed and peaks within 20 minutes. Vitamin B6 tablets are available in strengths of 100-1000 mg. In the awake patient, this can be used as an alternative source of pyridoxine, if asked. In an altered patient with a protected airway, these tablets can be crushed and administered via a nasogastric tube.

In summary, multi-dose vials (3g) of pyridoxine are in short supply and supplies do have an expiry date of end of July 2019. High dose IV pyridoxine should be reserved for treatment of seizures from INH, MMH & hydrazine that are resistant to usual anti-seizure medications. If no alternative is available, expired product should be considered.

Single dose (100 mg) vials are available and contain adequate amounts to use as cofactor therapy in ethylene glycol poisoning, if deemed warranted. Oral B6 is an alternative for the awake patient or with airway protection for the ethylene glycol poisoned patient. The use of multi-dose vials for this indication should be avoided.

References:

Margaret Thompson, MD, FRCP(C)
Medical Director, Ontario Poison Centre