Need for parenteral pyridoxine: A clarion call

Sir,

We read the article by Sridhar *et al*,[1] with great interest. The authors had rightly pointed out that time is of the essence in treating patients with Isoniazid (INH) toxicity. In recent times, we have witnessed an increased incidence of acute INH toxicity because of the resurgence of tuberculosis. Interestingly, INH-induced seizures do not receive due attention in differential diagnosis in the emergency room. Though refractory to conventional anticonvulsant, these seizures respond well to parenteral pyridoxine. Unfortunately, intravenous pyridoxine preparations are not freely available in India. Healthcare providers should consider using oral pyridoxine tablets through the nasogastric (Ryles) tube when the intravenous preparation is not available.[2] It is rapidly and completely absorbed from the GI tract, with peak plasma levels achieved within 20 min after ingestion. However, in the case reported,[1] pyridoxine tablets were not effective because the patient was hemodynamically unstable. In shock states, blood flow is diverted toward the vital organs; this shunting of blood reduces absorption of drugs from the intestines. Furthermore, the use of vasopressors and activated charcoal will also reduce absorption.

Short half-life of INH and the prompt response to pyridoxine might mitigate the need for dialysis for clearance of the drug. Forced alkaline diuresis is another alternative in those with preserved renal function.[3]

With the increased incidence of tuberculosis, more patients will be treated with INH, leading to an anticipated steady increase in the incidence of INH overdose. This report highlights the potentially disastrous repercussions of a poisoned patient and shows the importance of parental preparation of pyridoxine to manage a significant INH overdose. It is important that professional bodies of emergency medicine and clinical toxicology recommend and enforce on the availability of parenteral pyridoxine in all centers providing emergency services.[4]

From the viewpoint of patient safety, the "4 R rule" should be remembered: *recall* less common or uncommon conditions and differentiate one from the other during emergencies, *recognize* specific conditions based on clinical and/or laboratory data, *respond* with pharmacological antidote (if available) and supportive measures as per need, and *refer* to higher/specialized centers early.

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