toxtidbits
the maryland poison center's monthly update. news. advances. information.
1-800-222-1222
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Fomepizole: Drug Name Confusion

The Maryland Poison Center (MPC) was recently consulted on a possible antifreeze poisoning. The specialist in poison information recommended giving the IV antidote fomepizole (Antizol®), while waiting for lab tests to confirm that a toxic quantity of antifreeze was ingested. Fomepizole is a potent alcohol dehydrogenase inhibitor that prevents the formation of toxic metabolites when ethylene glycol or methanol is ingested. It was discovered by the MPC specialist several hours later that pantoprazole (Protonix®) was administered IV instead of fomepizole. Pantoprazole is a proton pump inhibitor (PPI) used for gastroesophageal reflux disease. This error caused a delay in antidotal treatment that could have been detrimental for the patient.

This is not the first time that this error has occurred. Similar cases have been reported to other poison centers. The most likely reason for this medication error is that fomepizole sounds like omeprazole, another PPI. Most hospitals do not have omeprazole on formulary, so other PPI's such as pantoprazole or esomeprazole may be used as a therapeutic substitute for omeprazole.

Antidotes are infrequently administered, and many health care providers are not familiar with the names, doses or methods of administration. This leads to errors that can be avoided by calling the poison center for recommendations or clarification. Look out for confusion when ordering or administering other antidotes:

- Cyanide Antidote Kit (amyl nitrite, sodium nitrite, sodium thiosulfate) is not the same as Cyanokit® (hydroxocobalamin). Cyanokit® may be safely given to smoke inhalation patients with carbon monoxide poisoning who are also suspected of having cyanide toxicity, while the nitrites in the Cyanide Antidote Kit are contraindicated.
- Vitamin K-1 (phytonadione) is the antidote for the drug warfarin as well as long-acting anticoagulant rodenticides. Vitamin K-3 (menadione) is not a substitute for Vitamin K-1; it will not reverse coagulation defects from these agents.
- Glucagon is used to reverse hypotension that results from beta blocker and calcium channel blocker toxicity. Doses as high as 7 mg/hour are recommended. The effective dose is much higher than the dose of 1 mg given when glucagon is used for hypoglycemia.

DID YOU KNOW THAT… *a study on treatment failures when IV acetylcysteine was administered for acute acetaminophen (APAP) overdose was recently published by MPC staff?*

This case series identified 4 patients who received IV acetylcysteine administration within 8 hours of an acute APAP ingestion and developed hepatotoxicity, including 1 death and 1 liver transplantation. The study concludes that the 21-hour IV acetylcysteine regimen may fail to prevent hepatotoxicity in some patients. Specific recommendations for reevaluating patients before discontinuing IV acetylcysteine are proposed.

(Doyon S, Klein-Schwartz W. Hepatotoxicity despite early administration of intravenous N-acetylcysteine for acute acetaminophen overdose. Acad Emerg Med 2008; 15:1-6)

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