

New in 2004: Intravenous Acetylcysteine (Acetadote®)

Acetaminophen overdose is frequently encountered in emergency medicine. In 2002, almost 120,000 acetaminophen exposures were reported to U.S. poison centers with it being the primary substance in 181 deaths. Toxicity is mainly hepatic, with elevated aminotransferase values often greater than 1000 IU/L. If untreated, some patients will progress to fulminant liver failure and death.

Acetylcysteine is an antidote for acetaminophen toxicity. Oral acetylcysteine has been proven to be effective in preventing hepatotoxicity when given soon after the ingestion of a toxic dose of acetaminophen, by limiting the formation of a toxic metabolite. The risk of developing hepatotoxicity increases when acetylcysteine administration is delayed for more than 8-10 hours after the overdose. There is also evidence that acetylcysteine treats toxicity via nonspecific mechanisms when given to patients already in acetaminophen-induced hepatic failure.

Nausea and vomiting often occur with oral acetylcysteine. Many patients require antiemetics and/or nasogastric tube administration in order to tolerate it. If the patient still cannot tolerate oral acetylcysteine, intravenous acetylcysteine would be preferable to avoid further delays and thus a possible lack of efficacy. Studies have shown that intravenous and oral acetylcysteine are comparable in efficacy; however, until recently, there was no intravenous preparation approved for use in the U.S.

Cumberland Pharmaceuticals announced on February 4, 2004 that it received FDA approval for an injectable form of acetylcysteine, Acetadote®. It was granted orphan drug status and is expected to be available in the second quarter of 2004. Therapy with Acetadote® should be initiated within 8 to 10 hours after acetaminophen overdose. The administration of Acetadote® is complete in 20 hours versus 72 hours for oral acetylcysteine. The most frequently cited adverse effects with intravenous acetylcysteine are rash, urticaria and pruritus, occurring most commonly during the initial loading dose. Look for more information from the Maryland Poison Center when Acetadote® becomes available.

***DID YOU KNOW THAT...* There are several commonly used drugs that will interfere with PCP urine assays?**

Dextromethorphan and diphenhydramine (in therapeutic doses or large overdoses), and venlafaxine (large overdoses) may give false positive results for PCP (phencyclidine) when the urine is screened for drugs of abuse. The results should be confirmed by further testing, which may require sending the sample to an outside lab.

