Acetaminophen overdoses in children can be life-threatening but are avoidable

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Acetaminophen, a widely available over-the-counter medication, can cause liver toxicity in children if doses are exceeded, and more public education is needed to warn of potential adverse effects, states an article published in CMAJ (Canadian Medical Association Journal).

"Acetaminophen overdose is a major cause of acute liver failure and is the most common identifiable cause of acute liver failure in children," writes Dr. Rod Lim, Department of Pediatrics, Children's Hospital, London Health Sciences Centre, London, Ontario, with coauthors. "Repeated supratherapeutic dosing [above the recommended dose], accidental overdose due to error and intentional ingestion can all result in acute liver failure and even death."

The authors cite a case study of a 22-day-old baby in which the parents misunderstood the correct dose of acetaminophen and administered too much analgesic for a circumcision. After the procedure, when the doctor instructed the parents to give another dose, they discovered the error. In this case, N-acetylcysteine with dextrose was given intravenously, and the child recovered within about 24 hours after ingesting the medication.

N-acetylcysteine is the standard treatment for liver toxicity related to an overdose of acetaminophen and is usually successful if started within eight hours after ingesting the drug.

"Although physicians and pharmacists should continue to educate parents and caregivers regarding the medications prescribed, one-to-one communication cannot be the sole approach to reducing errors in medication administration," write the authors. "Error reduction on a large scale requires systems-based interventions and prevention."

Suggestions include better labelling and dosing information, improved dosing devices - many parents use spoons, which are not standard sizes and can lead to overdoses - and placing acetaminophen behind the counter to ensure that a pharmacist can counsel parents on correct dosing.


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