

Research published in the December 2005 issue of the medical journal *Hepatology* found that the annual percentage of potentially fatal acute liver failure (ALF) cases caused by acetaminophen (TYLENOL) rose from 28 percent in 1998 to 51 percent in 2003. The research was conducted by the Division of Gastroenterology at the University of Washington Medical Center, Seattle WA. The facility is part of the U.S. Acute Liver Failure Study Group (ALFSG), a consortium of 22 academic medical centers that monitor cases of liver toxicity around the country.

The ALFSG collected information on all cases of acute liver failure that occurred between Jan. 1, 1998 and Dec. 31, 2003, including outcome information. A careful history of each patient's acetaminophen use, including the total dose, the type of product used, and the duration of use, was obtained where possible.

The researchers identified a total of 662 patients during the six year study period who met the criteria for acute liver failure. Of these 662 patients, in 275 (42%) cases, liver failure was found to have resulted from acetaminophen-induced liver toxicity. The fraction rose from 28% in 1998 to 51% in 2003, almost doubling in five years. The median total dose of acetaminophen taken by these patients was 24 grams, the equivalent of 48 extra-strength acetaminophen tablets.

Unintentional overdoses were responsible for 131 (48%) of the acute liver failure cases. Intentional overdoses, or suicide attempts, accounted for 122 (44%) episodes. In 22 (8%) of the cases, the intent was unknown. Of the 131 patients who overdosed unintentionally, 38% took two or more acetaminophen containing products simultaneously, and 63% used narcotic combination painkillers that contained acetaminophen.

Overall, 178 (65%) of 275 patients identified as having acetaminophen-induced liver toxicity survived. Seventy-four (27%) died without a liver transplantation, and 23 (8%) patients underwent a liver transplantation operation.

The authors of the study concluded:

"...acetaminophen hepatotoxicity far exceeds other causes of acute liver failure in the United

States."

They also stated that efforts to limit OTC package size and to restrict the prescription of narcotic-acetaminophen combinations (or to separate the narcotic from the acetaminophen) may be necessary to reduce the incidence of this increasingly recognized but preventable cause of ALF in the United States. Educational programs for practicing physicians, pharmacists, and consumers, involving a full discussion of the hazards of this ubiquitous pain reliever and the identification of susceptible groups, seems warranted.

In testimony before an FDA advisory committee on this topic more than three years ago, Health Research Group Deputy Director Dr. Peter Lurie made several similar suggestions, as well as some others, to reduce the terrible toll of acetaminophen-induced liver failure. That testimony is available at <http://www.citizen.org/publications/release.cfm?ID=7202> .

Drug induced injury or death is a tragedy because, as is the case with acetaminophen, most of the time the toxicity of the drugs causing injury or death is known. It is even more troubling when the drug-induced injury or death is unintentional. In the case of acetaminophen, this can occur in patients who are taking a prescription narcotic combined with acetaminophen as directed by their physicians if they also take acetaminophen-containing over-the-counter (OTC) products. This can happen even if these patients follow the instructions on the label of the product.

The amount of acetaminophen contained in OTC drugs is clearly listed on the label. Always read these labels before taking any OTC drug to make sure you are not taking acetaminophen (or any other drug) in more than one product. If you are prescribed a prescription painkiller, it is likely that it is a combination of a narcotic drug with acetaminophen. Lortab, Percocet, and Tylox are a few examples of widely-prescribed acetaminophen-containing painkillers. If you are prescribed a painkiller, ask your pharmacist if it also contains acetaminophen. Mixing OTC drugs and prescription painkillers may result in too much acetaminophen being taken.

Alcohol in combination with acetaminophen can increase the risk of liver toxicity. All OTC drugs that contain acetaminophen have the following warning on their labels:

### **Warnings**

*Alcohol warning:* If you consume 3 or more alcoholic drinks every day, ask your doctor whether you should take acetaminophen or other pain relievers/fever reducers. Acetaminophen may cause liver damage.

### **What You Can Do**

To prevent acetaminophen overdose, you should carefully read the labels on all OTC drug products to see if they contain acetaminophen. If you are prescribed a prescription painkiller, ask your pharmacist if it contains acetaminophen. Do not take OTC products that contain acetaminophen if you are taking an acetaminophen-containing painkiller. Do not take more than one acetaminophen-containing drug, prescription or otherwise.

If you or a family member develop any of the symptoms of potential liver toxicity, stop taking all acetaminophen-containing products and call your physician immediately. These symptoms are:

- *Pruritus (itchy skin)*
- *Jaundice (yellowing of the skin or whites of the eyes)*
- *Dark urine*
- *Upper right-sided abdominal tenderness (location of the liver)*
- *Unexplained "flu-like" symptoms*

Source: *Co-Cure*