



Canadian Liver Foundation
Fondation canadienne du foie

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Toxic Hepatitis

What does the liver do?

The liver processes everything a person consumes. Among many complex functions the liver cleanses the blood, regulates the supply of body fuel, and manufactures many essential body proteins including clotting factors.

What is toxic hepatitis?

Toxic hepatitis is an inflammation of the liver caused by chemicals. Many chemicals that are intentionally or unintentionally inhaled or consumed can have toxic effects on the liver. Among these chemicals are drugs, industrial solvents and pollutants. Virtually every drug imaginable has at one time or another been indicated as a cause of toxic hepatitis.

Toxins can occasionally cause chronic liver disease and even cirrhosis if exposure to the toxin is not stopped.

Do all toxins affect the liver in the same manner?

Toxins that can damage the liver have been divided into two groups:

- a) Predictable, those that are known to cause toxic hepatitis and liver damage with sufficient exposure to one or more of these chemicals. Examples of chemicals found in this group are cleaning solvents, carbon tetrachloride, and the pain reliever acetaminophen.
- b) Unpredictable, those toxins that damage the liver in a very small proportion of individuals exposed to the chemical. Unpredictable injury produced by most drugs is very poorly understood, but recent data suggest that a toxic response to a drug probably depends on the kind of enzyme a person inherits to metabolize the drug.

Why is the liver susceptible to injury by chemicals?

The liver is susceptible to injury by chemicals because it plays a fundamental role in chemical metabolism. The liver has the unique job of processing almost all chemicals and drugs that enter the blood stream and removing the chemicals that are difficult for the kidneys to excrete. The liver turns these chemicals into products that can be eliminated from the body through bile or urine. However, during this chemical process in the liver, unstable highly toxic bi-products are sometimes produced; these highly toxic bi-products can attack and injure the liver.

Regular alcohol consumption will likely enhance the chance of drug toxicity especially in the case of acetaminophen. Therefore, alcohol should not be consumed when using medications.



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What are the symptoms of toxic hepatitis?

Clinically, toxic hepatitis can resemble any form of acute or chronic liver disease, such as viral hepatitis or bile-duct obstruction. Symptoms such as nausea, vomiting, fever, jaundice as well as abnormal liver blood tests and liver biopsy findings are often identical to viral hepatitis. On the other hand, symptoms like fever, abdominal pain and jaundice can mimic other liver conditions, such as stones blocking the bile ducts.

How is the diagnosis of toxic hepatitis made?

At present there is no clear test to prove the diagnosis. Therefore, the diagnosis is made based on a thorough assessment of a patient. First, the doctor must pay close attention to all drugs used (prescribed or over the counter ones including vitamins and herbal remedies), as well as the environmental and occupational exposures to chemicals of each individual with liver disease.

The doctor must also consider the time of exposure. Some forms of chemical liver injury will occur within days to weeks of the exposure; however, sometimes it takes many months of regular ingestion of a drug before liver injury becomes apparent.

Vitamin deficiencies and toxicities may be considered when your doctor is investigating the possibility of toxic hepatitis. Please consult your doctor about the need to monitor your overall vitamin status if you are taking an over the counter or prescribed vitamin supplement.

How is toxic hepatitis treated?

If an individual has toxic hepatitis, the drug(s) should be immediately discontinued and further exposure to the offending chemical prevented. Removal of the offending chemical or drug leads to rapid improvement often within days, but sometimes several months may elapse before improvement is noted, even if chronic liver disease has already developed. No other specific therapy is needed.

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