



Paracetamol and Liver Health: Understanding Benefits, Risks, and Safe Use

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DESCRIPTION

Paracetamol is among the most frequently used medications worldwide for the relief of pain and reduction of fever. It is available in many forms and is commonly found in homes, pharmacies, and healthcare facilities. Due to its widespread availability and reputation as a safe medicine when taken correctly, many people use it without giving much thought to its effects on the body. Although paracetamol is considered safe at recommended doses, excessive intake can cause significant liver injury. Understanding how this medicine interacts with the liver is important for both healthcare professionals and the general public.

The liver performs many essential functions, including processing nutrients, storing energy, producing proteins, and breaking down medications. When paracetamol enters the body, it is absorbed through the digestive system and transported to the liver, where most of the drug is metabolized. Under normal circumstances, the liver converts paracetamol into substances that can be safely removed through urine. This process allows the medicine to provide pain relief while minimizing harm to tissues and organs.

When glutathione stores become depleted, N-acetyl-p-benzoquinone imine (NAPQI) begins to accumulate within liver cells. This accumulation can damage cellular structures and interfere with normal liver function. As injury progresses, liver cells may die, resulting in inflammation and impaired organ performance. In severe situations, acute liver failure may develop, which can become a life-threatening medical emergency requiring intensive treatment or even liver transplantation.

Paracetamol overdose is one of the most common causes of medication-related liver injury in many countries. Overdose may occur intentionally or accidentally. Accidental overdose is often linked to the use of multiple products containing paracetamol. Many cold, flu, cough, and pain-relief formulations include the medication as an ingredient. Individuals who take several such products simultaneously may unknowingly exceed the recommended daily limit.

The symptoms of paracetamol-induced liver injury do not always appear immediately. During the first several hours after excessive consumption, a person may experience nausea, vomiting, sweating, loss of appetite, or general discomfort. Some individuals may feel relatively normal despite significant internal damage. After one or two days, laboratory tests may reveal rising liver enzyme levels, indicating injury to liver cells. If the condition worsens, symptoms such as abdominal pain, jaundice, confusion, abnormal bleeding, and severe weakness may occur.

Research has shown that therapeutic doses are generally safe for most healthy adults. Healthcare authorities provide dosage recommendations designed to maintain effectiveness while reducing the chance of toxicity. Adults are usually advised not to exceed the maximum daily amount specified by healthcare guidelines and product labeling. Children require doses based on body weight, making accurate measurement especially important. Parents and caregivers should use appropriate measuring devices and carefully follow instructions provided with pediatric formulations.

Public education plays an important role in preventing liver injury related to paracetamol. Consumers should read medication labels carefully, avoid combining multiple products containing the same active ingredient, and seek professional advice when uncertain about dosing. Storing medications safely and keeping them out of reach of children can further reduce the risk of accidental ingestion.

The relationship between paracetamol and liver health illustrates the importance of appropriate medication use. A drug that is highly beneficial at recommended doses can become dangerous when consumed excessively. The liver possesses remarkable capacity to process and eliminate many substances, yet even this vital organ has limits. Respecting dosage instructions, remaining aware of product ingredients, and seeking timely medical care when concerns arise are practical measures that help protect liver function.

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