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Mechanisms of liver damage.

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The liver is implicated in many processes, and its failure induces severe consequences for metabolism, immune response, detoxification and antimicrobial defenses. The mechanisms involved in liver injury are complex and interactive, and can be artificially separated as chemical and immune injuries. The biochemical mechanisms concern various chemicals that are detoxified in the liver via cytochrome P-450 and conjugation. Toxic metabolites may alter plasma membrane, mitochondria, intracellular ion homeostasis, or degradative enzyme activity. Immune mechanisms involve cell cooperation, and are mediated by cytokines, nitric oxide, and complement. Pathologic apoptosis is potentially an important mechanism of acute liver injury. Specific attention is paid here to the more frequent causes of acute liver failure: hypoxia/reoxygenation, liver congestion, acetaminophen poisoning, posttransplant acute liver rejection, severe sepsis, viral hepatitis, and alcoholic liver disease. Knowledge of the intimate mechanisms of liver injury at the cellular level may lead to adaptation of therapeutic strategies that will prevent end-stage liver failure.

MeSH Terms:

- Apoptosis
- Cytokines/metabolism
- Human
- Liver/pathology
- Liver/metabolism
- Liver/immunology*
- Liver/drug effects*
- Liver Diseases/pathology
- Liver Diseases/immunology
- Liver Diseases/etiology*
- Liver Diseases/chemically induced
- Liver Failure, Acute/complications
- Metabolic Detoxication, Drug
- Nitric Oxide/metabolism
- Reactive Oxygen Species/metabolism
- Sepsis/physiopathology

Substances:

- Nitric Oxide
- Reactive Oxygen Species
- Cytokines

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the above report in format.
