Frontiers in Bioscience Landmark

an Open Access journal of IMR Press
Electronic ISSN: 2768-6698 | Print ISSN: 2768-6701

Special Issue

Hepatotoxicity: Molecular Mechanisms and Pathophysiology

Deadline: 31 March 2023

Guest Editor

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Dear Colleagues,

Humans may be exposed to a variety of chemicals that are potentially toxic to the liver, either in their original form or following metabolic activation to toxic intermediates by liver enzymes. These enzymes are mostly confined to the endoplasmic reticulum, corresponding to the microsomal fraction. The uptake of these toxins commonly occurs via the gastrointestinal tract after oral ingestion, but sometimes also via the lungs after inhalation of industrial chemicals such as carbon tetrachloride. Well-established chemical toxins and toxic products include ethanol, chemicals contained in conventional drugs, phytochemicals from herbal medicines including traditional Chinese medicine (TCM) and Ayurvedic medicine, and plants including fungi. Still under discussion are hepatotoxins from herbicides, pesticides, fertilizers, halogenated hydrocarbons, industrial and household solvents, heavy metals, and specifically aflatoxins and unsaturated pyrrolizidine alkaloids. Typical dose-dependent chemicals are ethanol, halogenated hydrocarbons and acetaminophen, whereas most conventional drugs and herbal medicinal products carry an unpredictable, low independent risk of liver injury. The aim of this Special Issue is to shed more light on the pathomechanistic aspects of liver injury at the molecular level caused by several potential toxins. Authors working in this area are encouraged to submit their research to this Special Issue.

Prof. Rolf Teschke

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