

Analgesics and glutathione.

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A growing body of evidence indicates that glutathione (GSH) plays a vitally important role in cellular function. It detoxifies toxic metabolites of drugs and reactive oxygen species and regulates gene expression, apoptosis, and transmembrane transport of organic solutes. The maintenance of GSH homeostasis is essential for the organism to perform its many functions. The turnover of GSH is a dynamic process, and large quantities of GSH are synthesized per day from its precursor amino acids cysteine, glutamic acid, and glycine. Toxic doses of paracetamol deplete intracellular GSH and result in cell death by a combination of mechanisms, leading to necrosis and apoptosis, mainly in the liver. In clinical situations characterized by low GSH, the risk of toxicity from therapeutic doses of paracetamol may conceivably be increased. This toxicity has been reported in chronic alcoholics who have low intrahepatic GSH and who may have an induced enzyme system that generates the toxic metabolite of paracetamol. Considering the large number of alcoholics in our population and the widespread use of paracetamol, this must be a rare and essentially unpredictable occurrence. Except for anecdotal reports, there is no convincing evidence that other populations in which low GSH has been observed-such as patients with human immunodeficiency virus (HIV) infection or chronic hepatitis C, malnourished patients, and patients with cirrhosis-are at higher risk of experiencing adverse events from paracetamol.

