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Biochemical Changes in the Liver of Mice after Exposure to Different Doses of Diclofenac Sodium

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Abstract : Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are a group of widely used drugs for the treatment of rheumatoid diseases and to relieve pain and inflammation due to their analgesic anti-pyretic and anti-inflammatory properties. The therapeutic and many of the toxic effects of NSAIDs result from reversible inhibition of enzymes in the cyclooxygenase (COX) group. In the present investigation the effect of the drug on the concentration of lipids, and on the activity of the enzymes i.e. acid and alkaline phosphatase, GOT, GPT and lipid peroxidase were studied. There was a significant enhancement in the activities of both acid and alkaline phosphatase after 21 days of treatment. Proportionate increase in the MDA contents was observed after different days of diclofenac treatment. Cellular damage in the liver resulted in decrease in the activity of both GOT (Glutamate oxaloacetate transaminase) and GPT (Glutamate pyruvate transaminase) in both low and high dose groups. Significant decrease in the liver contents was also observed in both dose groups.

Keywords : anti-inflammatory, cyclooxygenase, glutamate oxaloacetate transaminase, malondialdehyde
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