using three models of hepatotoxins. Paracetamol, which is common antipyretic agent, is safe in therapeutic dose but in high dose causing liver damage, was used for the study as a hepatotoxin. The other two models are carbon tetrachloride as well as ethanol. Carbon tetrachloride intoxication in rats is widely used to study necrosis and steatosis of the liver. Liver, which can metabolise ethanol, shows a profound alteration in intermediary metabolism when subject to high doses or with lengthy exposure. Levels of serum glutamate oxaloacetate transaminase, serum glutamate pyruvate transaminase and alkaline phosphatases, which were increased in the serum by this treatment, were found to be significantly reduced by the treatment of lutein in a dose-dependent manner. The data presented in this study support the hypothesis that lutein may protect liver from various other toxic substances by effectively preventing the oxidative stress.

The thesis has been divided into 8 chapters as follows:

Chapter 1: Review of literature.

Chapter 2: Materials and methods.

Chapter 3: Antioxidant activity of lutein

Chapter 4: Antimutagenic activity of lutein

Chapter 5: Anticarcinogenic and antitumor activity of lutein and its mechanism of action

Chapter 6: Nephroprotective and chemoprotective activity of lutein

Chapter 7: Radioprotective activity of lutein

Chapter 8: Anti-inflammatory, gastroprotective and hepatoprotective activity of lutein

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