

Effect of Pomegranate Juice against High Fat Diet Induced Fatty Liver in rats

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Abstract

This research aims at studying the effect of pomegranate juice against high fat diet induced fatty liver in rats. Forty adult male rats Sprague-Dawley strain, were divided into four groups of ten rats each weighing 180 ± 20 g. (G1) control group that were fed on standard diet, (G2) rats fed on standard diet with Pomegranate juice (20 ml/kg body weight orally) , (G3) rats fed on high fat diet, (G4) rats fed on high fat diet with pomegranate juice (20 ml/kg body weight orally). The experiment was conducted for 6 weeks. The incidence of fatty liver was evaluated by assayed the liver enzymes in serum (alanine aminotransferase and aspartate aminotransferase), serum lipid profile such as total cholesterol , high density lipoprotein cholesterol, triglycerides and histopathological examination of liver. The high fat diet group (G3), revealed hyperlipidemia, elevated in liver enzymes and histological changes in the liver tissue. While, the rats fed high fat diet with pomegranate juice group (G4), showed reduction in the levels of serum lipids and improvement in the liver enzymes. Furthermore, pomegranate juice reduced the occurrence of histological changes in rat's liver . The results of the study concluded that daily administration of pomegranate juice can protect against developing changes caused by high fat diet and reduced the development of fatty liver. These findings suggested that drinking pomegranate juice may be beneficial for people who are exposed to fatty liver or hypercholesterolemia.

Keywords: pomegranate juice, fatty liver, high fat diet, rats.