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EFFECTS OF ANTIOXIDANTS ON SOME OXIDATIVE STRESS AND HORMONAL PARAMETERS IN MALE RATS

A Thesis Presented
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ABSTRACT

In the present study, the therapeutic effects of ginger, flaxseed and fish oil supplementation on serum lipid profile, antioxidant, liver and kidney functions in high cholesterol diet-induced hypercholesterolemia in rats have been evaluated. The animals were divided into 5 groups of 12 rats each. Group I served as the control. Rats in groups II, III, IV and V were fed with an atherogenic diet for 8 weeks, group III received atherogenic diet supplemented with 5% ginger, group IV received atherogenic diet supplemented with 20 % flaxseed and group V received atherogenic diet supplemented with 10% fish oil. Blood samples were taken at the 4^{th} and 8^{th} weeks and histopathological examination to cardiac, aortic, hepatic, and renal and thyroid tissues were performed. The treatment with ginger, flaxseed and fish oil results in significant amelioration in lipid profile, liver and kidney functions. Furthermore, antioxidant status showed significant modulation when compared with hypercholesterolemic male rats. In addition, significant improvement in the histopathology of heart, aorta, liver and kidney was observed. We concluded that dietary supplementation with ginger, flaxseed and fish oil have favorable effects on serum lipid parameters, anti-atherogenic, antioxidant, hepato and renal protection in hypercholesterolemic male rats.

Key words: hypercholesterolemia, ginger, flaxseed, fish oil, lipid, liver, kidney, antioxidant.

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