KSN 2022
SEOUL, KOREA MAY 26 - 29

Abstract Submission No. : 1368

Anti-atherosclerotic effects of Cinnamon bark extract in cholesterol diet induced hyperlipidemia in rats

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Objectives: To reduce the risk of oxidative stress, hyperlipidemia and atherosclerosis in cardiovascular diseases, there is the need of novel agents with less side effects. Aqueous extract of bark of **Cinnamon** has been reported to cause reversible increases in intracellular calcium, hypolipidemic activity and insulin secretion in mouse and human β cells with type 2 diabetes. The present study is an attempt to scrutinize the extent of effectiveness of of Cinnamon acetone fraction (CAF) as a hypolipidemic agent in diet- induced hypercholesterolemic rats.

Methods: Forty eight Wistar albino rats were classified into six groups in which n=6, and fed a high-cholesterol (HC) diet for 30 Days. Group I Treated as normal control, Group II treated with high-cholesterol diet and administered a test dose (100,200,400 mg/kg) of CAF for 30 days. Atorvastatin (1 mg/kg) were used as the standard drug and given to the last group of rats. The effects of **CAF** on serum lipid profile, atherogenic index, and cardiac markers were examined in all rats.

Results: CAF significantly showed significant reduction in the alkaline phosphatase, lactate dehydrogenase (LDH) and creatine phosphokinase in all rats as compared to normal control rats levels of lipids and lipoprotein with significant enhancement in HDL-C. There was significant downregulation in the atherogenic index and cardiac markers enzymes such as aspartate transaminase. CAF was able to decrease the elevated serum lipids (TC, TG, LDL, and VLDL) and consequently increase the HDL levels in a dose-dependent manner.

Conclusions: The results of present study reveal that **CAF** extract could be useful intervention in the treatment of obesity and type-2 diabetes mellitus.