

*Effect of Vildagliptin on Fructose and High Fat Diet induced
Metabolic Syndrome in Rats*

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ABSTRACT

Objective

The aim of the current investigation was to evaluate the effect of Vildagliptin on Fructose and High Fat Diet induced Metabolic Syndrome in Rats.

Experimental Work

Metabolic Syndrome was developed in Albino Wistar rats, which were randomly divided into three groups of six animals each, by feeding with Fructose and High Fat Diet for 8 weeks. Group 1 received normal diet. Group 2 received Fructose in drinking water and High Fat diet. Group 3 received Fructose in drinking water and High Fat diet along with Vildagliptin (3 mg/kg) after 4 weeks. After 8 weeks of treatment period, blood glucose, Serum cholesterol, triglyceride, HDL, LDL and VLDL levels were measured. Also

superoxide dismutase (SOD), reduced glutathione (GSH) and maleic-dialdehyde(MDA) levels were estimated.

Results and discussion:-

Vildagliptin (3 mg/kg) reduced the raised serum level of blood glucose, total cholesterol, triglyceride, LDL, VLDL and increased the serum HDL level as compared to the control group (Fructose and High Fat Diet). There was also depletion of GSH content and increased level of SOD and MDA. Vildagliptin (3 mg/kg) exhibited less damage to endothelial lining of aorta as compared to control group (Fructose and High Fat Diet), which may be attributed to antihyperlipidemic activity of Vildagliptin. It has also shown blood pressure lowering effect.

Conclusion

Vildagliptin have protective effect on the symptoms of Metabolic Syndrome.