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Evaluation of comparative hypoglycaemic effect of *Withania somnifera, Curcuma longa, Zingiber officinale* and *Azadirachta indica* on diabetic mice

Ranjit Kumar

Mahavir Cancer Institute & Research Centre, India

Abstract

India has the largest number of diabetes in the world. Its syndrome characterized by the loss of glucose homeostasis and lack of insulin secretion. In spite of introduction of various hypoglycaemic agents, diabetes and its complications continue to be a major problem in the world populations. Modern medicines are available for the treatment of diabetes. But they also have undesired effects associated with their uses and fail to give a long term glycemic control. Thus the present study is designed to study hypoglycaemic effect of root of *Withania somnifera,* rhizome of *Curcuma longa,* rhizome of *Zingiber officinale* and leaf of *Azadirachta indica* on biochemical and histological parameters of liver, kidney and pancreas of mice. Control group of mice receives distilled water while experimental group receives 150 mg/kg. b.w and 200 mg/kg. b.w alloxan for eight weeks followed by eight weeks of administration of herbal medicines. Glucose level was increased to 328 mg/dl in alloxan induced group while it was 118 mg/dl, 170 mg/dl, 156 mg/dl, 142 mg/dl in eight weeks of *withania, curcuma*, zinger and *azadirachta* administered group. Lipid peroxidation were also restored to greater extent in *withania* and zinger administered group. SGPT, SGOT. Urea, Uric acid and creatinine were also restored to greater extent in *withania* and *curcuma* administered group. Liver and kidney are more restored in *withania* and *curcuma* administered group. While zinger show more restoration in pancreas. Thus it is evident from study that ashwagandha play vital role in restoration of histological and biochemical parameters of diabetes in comparision of other selected herbal plant.

Key Words: Alloxan, Uric acid, Ashwagandha, Turmeric, Neem, Lipid peroxidation.

Biography

Dr. Ranjit Kumar has completed his Ph.D at the age of 28 years from Patna University, Patna. He is working as Scientist – I at Mahavir Cancer Institute and research Centre, Phulwarisharif, Patna (Bihar), India for last six years. He has published more than 40 papers in reputed National and International journals and serving as an editorial board member of Indo Global Research Journal. He is fellow of Indian Society of Haematology and Ecotoxicology. He has published three books on toxicology. He has Co-supervised 6 Ph.D students and more than 65dissertation students from different Universities of India.