

Anti-Diabetic Effect of *Withania somnifera* in Alloxan Induced Diabetic Rabbits

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Abstract : The present work was undertaken to investigate effects of various extracts of *W. somnifera* (WS) for anti-diabetic activity in alloxan induced diabetic rabbits. Animals were divided into nine groups of six rabbits each. The animals of group 1 and 2 were given lactose (250 mg/kg, p.o) and WS root powder (100 mg/kg, p.o) respectively daily from day 1-20. Animals of group 3 were given alloxan (100 mg/kg, i.v) as a single dose on day 1. Powdered root of WS in the doses of 100, 150, 200 mg/kg and its aqueous (AWS) and ethanol extracts (EWS) (equivalent to 200 mg/kg of crude drug) were given to the treated animals (groups 4-8), respectively orally for three weeks (day 1-20 o.d), along with alloxan (100 mg/kg, i.v) as a single dose on day 1. Group 9 was given metformin (200 mg/kg) daily from day 1-20, along with a single dose of alloxan (100 mg/kg, i.v) on day 1. Fasting serum glucose concentration in groups 3-9 was increased significantly ($p < 0.05$) on day 3 as compared to normal control (NC) group (1). WS (100, 150, 200 mg/kg, p.o) decreased the fasting serum glucose concentration, with a maximum decrease (88.3 mg/dl) in group 2 (treated control) on day 21 of the experiment. These results indicate that metformin (reference control), (AWS) and (EWS) significantly antagonized the diabetic effects of alloxan.

Keywords : diabetes, serum, glucose, blood, sugar, rabbits

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