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Anti-diabetic and antitoxic effects of *Momordica charantia* in alloxan-induced diabetes in Swiss albino mice

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Statement of the Problem: Diabetes mellitus is a universal problem affecting human societies at all stages of development. It is a condition where sufficient amount of insulin is either not produced or the body is unable to use the insulin that is produced, leading to excess glucose in the blood. Various medicines have been discovered till date to control it but ethno drugs in the present day is in high demand as its side effects are very least. The aim of this study is to investigate the anti-diabetic and antitoxic effects of *Momordica charantia* fruit on alloxan induced diabetic mice.

Methodology: The study was approved by Institutional Animal Ethics Committee. Mice were divided into 3 groups: Control (n=6), Alloxan treated (n=12) and *Momordica charantia* administered group (n=6). Treated group mice were alloxanized, alloxan monohydrate 150 mg/kg body weight administered intraperitoneally. After the development of diabetes in mice the aqueous extract of *Momordica charantia* at the rate of 100 mg/kg body weight was administered for 21 days to evaluate its anti-hyperglycemic activity. There serum glucose levels as well as the Liver Function Tests (LFT)-SGPT, SGOT, ALP, ACP and total bilirubin levels were analyzed statistically using ANOVA and Dunnett's tests.

Findings: The serum glucose levels shows increase in the levels in the alloxan induced diabetic group in comparison to control group while the *M. charantia* group showed the glucose lowering down activity denotes the anti-diabetic effect. The liver function test showed significant elevation in the levels of SGPT, SGOT, ALP, ACP and bilirubin levels in alloxan induced groups while the *M. charantia* shows significant decrease in in the LFT levels denotes the antitoxic effects.

Conclusion: From the entire study it can be concluded that *M. charantia* can be used as potent natural anti-diabetic drug which can control the diabetes at much level furthermore it also prevents the liver from the diabetic damage and restores of cellular status of the liver.

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