

# Aloe Vera Gel for Streptozotocin Induced Diabetes Mellitus in Rats

**Sobia Javed** Department of Pharmacology, Rawalpindi Medical University, Rawalpindi ABSTRACT

**Sobia Javed Department of Pharmacology, Rawalpindi Medical University, Rawalpindi ABSTRACT Objective:** To compare anti-diabetic effects of Aloe Vera gel with hypoglycemic agent, sitagliptin on streptozotocin induced diabetic rats.

## **Materials and Methods: Study**

**Design:** Randomized Control Trial

**Place and Duration of Study:** The study was done in Department of Pharmacology, Islamic International Medical College, Rawalpindi in collaboration with NIH, Islamabad, Pakistan, from September 2019 to August 2020.

**Methodology:** 40, young Sprague Dawley rats were taken and randomly divided into Group A and group B. After induction of type 2 diabetes with low dose streptozotocin, group B was subdivided with n=10 each as; Group B1 (Diabetic Control), Group B2 (Aloe Vera gel treated), GROUP B3 (Sitagliptin treated). FBS and HbA1c measured. Statistical Analysis was done by applying SPSS version 25. One-way ANOVA test was used for assessing any difference in the mean values. Post-hoc Turkey analysis was conducted to compare any inter-group mean differences. P value of <0.05 was considered significant.

## **Results: On**

completion of study, at day 60, Mean FBS of Rats in Group A was 82.40 mg/dl, B1 498.40mg/dl, B2 95.70 mg/dl, B3 93.00mg/dl; Mean HbA1c of Group A was 3.71%, B1 11.84%, B2 4.17% , B3 3.73% respectively. Rats in Group B2 and B3 had significant reduction in FBS and HbA1c levels compared to Group B1, with no statistically significant intergroup difference in Groups A, B2 and B3.

## **Conclusion:**

Aloe Vera gel significantly decreased fasting blood glucose and HbA1c levels with almost similar efficacy to Sitagliptin in diabetic rats.