
**STUDY OF BLOOD GLUCOSE AND SGPT LOWERING EFFECT OF
EUCALYPTUS LANCEOLATA LINN. IN INDUCED DIABETIC RABBITS**

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Abstract

The part of the plant to curing the diabetes mellitus and improves available data on plants with hypoglycemic effects. Antidiuretic potential of eucalyptus extracts has been evaluated in alloxan-induced diabetic rabbit. Here we used, plants extract about 256 kg were mix with 1000 ml methanol and keep in Flask. After filtering the extracts were exposed to rotary evaporator machine that methanol separated from plant extract. In the Nine rabbit were divided into three different groups. The body weight was recorded on every 6 days interval. The data obtained revealed that eucalyptus extracts reduced the glucose level effectively. Such treatment with extracts decreased the SGPT level. Therefore, it is concluded that the eucalyptus possesses significant antidiabetic activity. And finally, we recommend this plant for medicinal uses and for pharmaceutical industries to isolate pure drugs.

Key words: Alloxan, Methanol, Glucose, Triglyceride.

Introduction

Diabetes mellitus is one of the world's real ailments. It as of now influences an expected 143 million individuals worldwide and the number is developing quickly. Plant-based therapeutic items have been known since antiquated occasions, and a few restorative plants and their items (dynamic normal standards and unrefined concentrates) have been utilized to control diabetes in the customary restorative frameworks of numerous societies around the world. A few restorative plants have discovered potential use as hypoglycemic operators which are the essential types of treatment for diabetes. Nonetheless, noticeable reactions of such medications are the principle purpose behind an expanding number of individuals looking for elective treatments that may have less serious or no symptoms. All plants have indicated fluctuating level of hypoglycemic and against hyperglycemic movement with various instrument of activity (Donga et al, 2011).

Gymnema Sylvester utilized as a conventional antidiabetic and hypolipidemic operator. The impact of *Gymnema Sylvester* in both typical and Allegan instigated diabetic rodents. Past examination uncovered that *Gymnema Silvestre* has noteworthy antidiabetic movement and a hypolipidemic action in Allegan incited and typical fasting rodents (Rajesh kumar et al., 2008). Additionally, Cassia expressive and Eagle warm blooded creatures are utilized widely in the indigenous arrangement of drug as an enemy of diabetic specialist. The consolidated plant concentrates treated creatures uncovered rebuilding of β -cells. The reclamation of β cells was obvious at higher portion level for example 450mg/by wt concentrates bolstered gatherings (Cong et al, 2017). *Momordica charantia* have antidiabetic property and most extreme significance to individuals and creatures. (Sarmistha et al.,2010). Metformin in an edge of a helpful procedure for diabetes because of its subsequent negative effect on invulnerability and male fruitfulness (Bayomy, et al., 2017). The utilization of plants in the treatment of diabetes mellitus is a settled practice in customary medication. *Viscum* collection has been prescribed for the treatment of a few infections. This examination assessed the glucose bringing down impact of leaf concentrates of this plant in typical and streptozotocin instigated diabetic rodents (Emenike et al., 2007). Different investigations unmistakably showed the noteworthy antidiabetic movement of *Catharanthus Roseus*, *Azadirachta indica* and *Allium sativa* and underpins the conventional use of the natural arrangements by Ayurvedic doctors for the

treatment of diabetics (Mostofa et al, 2007). Diabetes mellitus is an autonomous hazard factor for the advancement of coronary conduit illnesses, myocardial dead tissue, hypertension, and dyslipidemia (Narender et al., 2012).

Materials and Methods

3.1 Plant accumulation: Eucalyptus Lanceolata which is found generally in the bumpy territories were gathered from Dir lower of Khyber Pakhtunkhwa.

3.2 Drying and Grinding of Plant: The plant was washed and kept aside in a shad for 21 days for drying. It was presented to daylight to dodge contagious assault. All the dried leaves were pounded with processor.

3.4 Selection and Grouping of Animals: An aggregate of 40 hares (*Oryctolagus cuniculus*) were utilized and set it in the Bio Park of the University of Malakand for acclimatization. Water and feed were accessible not indispensable. Following 10 days of raising, 15 bunnies were haphazardly chosen. On the premise weight they were partitioned into 5 gatherings. Same weighted were kept in same gatherings. Each gathering contain of 3 hares. Gathering 1, 2, 3, 4, 5 body weighted were 1300g, 1200g, 1250g, 1300g, 1400g.

3.7 Induction of Diabetes Mellitus: Alloxane monohydrate was used to induce diabetes. Gathering A unmedicated control having Diabetes mellitus. Gathering B was treated with Glucophage (Metformin HCl) at the portion rate of 12 mg/kg body weight. Gathering C, D, E were cured with plant separate at the portion rate of 120 mg/kg, 220 mg/kg, 320 mg/kg body weight.

3.9 Collection of Blood Samples: Blood tests were gathered from every one of the gatherings with following calendar, 2 hours, 4 hours, 6 hours, 8 hours, and 10 hours.

3.9.1 Isolation of Serum: Blood tests were gathered from each gathering and were examined. Serum was gathered in bird of prey tubes and was centrifuged at 4000rpm for 8 minutes and was dissected by Blood Chemistry Analyzer and Double Beam UV Spectro Photometer for various biochemical parameters. The protocol of Barham and Trinder, 1972 was used for the study of glucose and ALT.

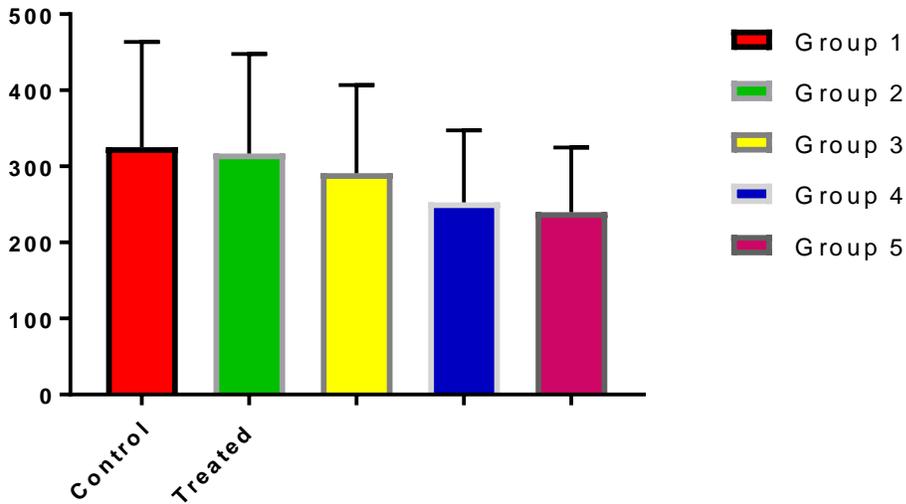
Results: Blood glucose (mg/dl) level of rabbits in triplicate. The table shows the effect of *Eucalyptus lanceolata* have a significant antidiabetic activity. The effect of different concentration of methanolic extract have significant reduction of glucose level after administration as compare with diabetic control group. 1st group of rabbits was lifted untreated and its level increase after 10 hours. In 2nd group we introduce glucophage 12mg/kg to rabbits and its glucose level decrease after each 2 hours (i.e 2 hrs results 431, 4 hrs results 411, 6 hrs 338mg/dl, after 10 hrs the level of glucose were 281mg/dl). In 3rd group we applied methanolic extract of eucalyptus lanceolatalin to diabatic rabbits, then we check result after each 2 hrs. After 10 hrs the glucose level fall from 401mg/dl to 251mg/dl. Group 4 rabbits were introduced into 220mg/kg of methanolic extract of *Eucalyptus Lanceolata* Linn. The glucose level reduce from 391mg/dl to 305mg/dl after 10 hrs. In group 5 methanolic extract of Eucalyptus Lanceolata Linn. 320mg/kg decrease from 316mg/dl to 271mg/dl after 10 hrs.

Table 2 showed blood SGPT/ALT (IU/L)

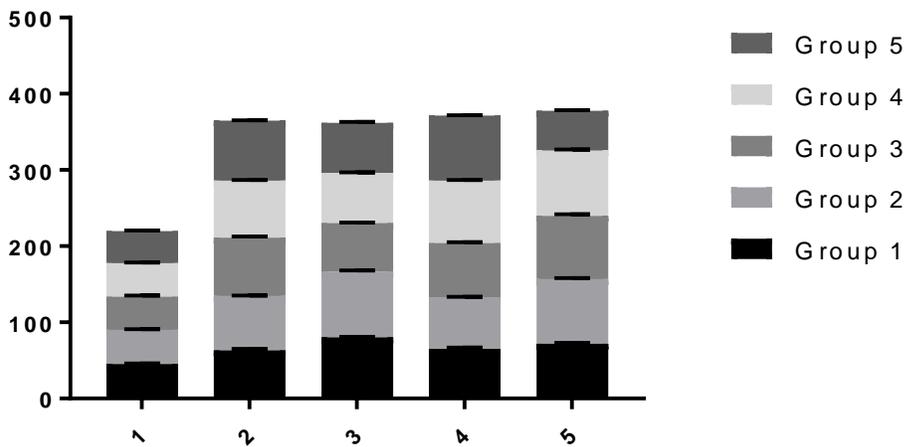
Treatments	2 hrs	4 hrs	6 hrs	8 hrs	10 hrs
Untreated control	44.00	45.00	42.0	43.00	41.00
Diabetic control + Glucophage (12mg/kg)	61.00	72.00	78.00	76.00	79.00
Diabetic + Methanolic extract of Plant 120mg/kg	79.00	88.00	64.00	65.00	66.00
Diabetic + Methanolic extract of Plant 220mg/kg	67.00	68.00	70.00	83.00	85.00
Diabetic + Methanolic extract of Plant 320mg/kg	72.00	84.00	85.00	87.00	51.00

The Table showed the effect of *Eucalyptus Lanceolata* Linn.. has a significant Ant diabetic activity. The effect of different concentration of methanolic extract has significant reduction of

glucose level after administration as compared with diabetic control group. The SGPT/ ALT level reduces from 44.00 to 41.00 after 10 hours.



Graph 1 showing glucose level (mg/dl) in induced diabetic



Graph 2 showing SGPT level (mg/dl) in induced diabetic

Discussion

Diabetes mellitus is a syndrome which impacts greater and greater humans in all nations over the world. Alloxan diabetic rabbits, the blood glucose degrees are raised due to

the everlasting destruction of pancreatic β cells. Moreover, the serum insulin levels are reduced in Alloxan diabetic rabbits due to destruction of pancreatic β cells. The expand in serum insulin levels of diabetic rabbits as determined in the existing work suggests that some regeneration of pancreatic β cells has took place with the use of compound recipe. This regeneration of pancreatic β cells has took place slowly and was maximum after a period of three days. It is claimed that pancreas tonic, which is composed of a number of medicinal plants, causes a widespread discount in blood glucose ranges due to the regeneration of pancreatic β islet cells. The regeneration is basically due to presence of *Eucalyptus Lanceolata* Linn. that carries significant quantity of sugar. It has been pronounced that aqueous extracts of the plant produced a vast discount in the blood glucose stages in rabbits. Extract bought from *Eucalyptus Lanceolata* Linn. used to be examined for anti-diabetic pastime in rabbits and was once found to be superb against alloxan-induced diabetes. The other ingredients of pancreas tonic potentiate the actions of *Eucalyptus Lanceolata* Linn. This is due to the truth these vegetation have the potential to reduce blood glucose tiers of diabetic rabbits by means of stimulating the pancreatic β islet cells and for that reason growing the volume of insulin. As alloxan destroys pancreatic β islet cells, these constituents have impact on diabetic animals. The information published that pancreas tonic and compound recipe have decrease glucose effect in rabbits but they had induced massive blood reduction in blood glucose stages of alloxan diabetic rabbits. These observations expose that these compounds have action in blood glucose tiers of alloxan diabetic rabbits. These observations advocate that these compounds perchance regenerate the pancreatic β cells that secrete insulin that is accountable for discount in blood glucose levels. It may be counseled that the Study of Blood Glucose and SGPT decreasing effect of *Eucalyptus Lanceolata* Linn. precipitated Diabetic Rabbitsbe existing in *Eucalyptus Lanceolata* Linn.. The present study used to be planned to look at the hypoglycemic effect of the Compound recipe' a combination of regular medicinal vegetation in normal and Allegan precipitated diabetes mellitus. This find out about was once performed to learn about the feasible position of indigenous medicinal flowers in the regeneration of pancreatic cells and in cure of insulin established diabetes mellitus (Noreen et al, 2010).

Conclusion:

In conclusion, this study indicates that the *Eucalyptus Lanceolata* Linn. extracts possess significant antidiabetic activity. It also has antioxidant potential for oxidative stress produced by diabetes. The medicinally it also for tooth brushes and laxative and also use it for animals, human for fruits and fodder fruits.

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