

Antihyperglycemic Effect of Aqueous Extract of *Foeniculum vulgare* Miller in Diabetic Mice

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Abstract : *Foeniculum vulgare* Miller is a biennial medicinal and aromatic plant belonging to the family Apiaceae (Umbelliferaceae). It is a hardy, perennial-umbelliferous herb with yellow flowers and feathery leaves. The aim is to study the control of blood glucose in alloxan induced diabetic mice. Method used for extraction was continuous hot percolation method in which Soxhlet apparatus was used. 95% ethanol was used as solvent. Male albino mice weighing about 20-25 g obtained from Guru Angad Dev University of Veterinary Science, Ludhiana were used for the study. Diabetes was induced by a single i.p. injection of 125 mg/kg of alloxan monohydrate in sterile saline (11). After 48 h, animals with serum glucose level above 200 mg/dl (diabetic) were selected for the study. Blood samples from mice were collected by retro-orbital puncture (ROP) technique. Serum glucose levels were determined by glucose oxidase and peroxidase method. Single administration (single dose) of aqueous extract of fennel (25, 50, and 100 mg/kg, p.o.) in diabetic Swiss albino mice, showed reduction in serum glucose level after 45 min. Maximum reduction in serum glucose level was seen at doses of 100 mg/kg. Aqueous extract of fennel in all doses except 25 mg/kg did not cause any significant decrease in blood glucose. It may be said that the aqueous extract of fennel decreased the serum glucose level and improved glucose tolerance owing to the presence of aldehyde moiety. The aqueous extract of fennel has antihyperglycemic activity as it lowers serum glucose level in diabetic mice.

Keywords : *Foeniculum vulgare* Miller, antihyperglycemic, diabetic mice, Umbelliferaceae

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