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Studies on induced diabetes in rats and evaluation of efficacy of *Ocimum sanctum* in its control

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The present study was undertaken to observe the biochemical and pathomorphological changes observed in streptozotocin induced diabetes mellitus in rats and evaluate the hypoglycemic effect of *Ocimum sanctum* extract for a period of 60 days. Alcoholic *Ocimum sanctum* extract was gavaged at the dose of 150 mg/ kg b.w. and 300 mg/kg b.w. to the rats' everyday for 60 days and compared with a standard hypoglycemic drug glibenclamide at the dose of 600 µg/kg b.w. There was significant difference in parameters such as body weight, serum glucose, triglyceride, cholesterol, ALT, AST, RBC, hemoglobin, PCV, platelets and WBC in diabetic rats when compared to normal control animals. *Ocimum sanctum* extract showed a dose dependant response. *Ocimum sanctum* extract at the dose of 300 mg/kg showed a good improvement in haematological, biochemical and histopathological profile. The pancreatic histology showed a gradual improvement during the period. The improvement in the above parameters was not effective enough at the dose of 150 mg/kg b.w. Glibenclamide and *Ocimum sanctum* extract at a dose of 300 mg/kg b.w. were almost on par in several parameters. There was no synergistic or additive effect seen between *Ocimum sanctum* extract and glibenclamide at half the dose (300 µg/kg b.w.). There was no toxic effect to the rats when gavaged *Ocimum sanctum* extract at the dose of 300 mg/kg b.w. every day for 60 days.

Biography

Simitha John has completed her Master's Degree in Veterinary Pathology from Karnataka Veterinary, Animal and Fisheries Sciences University, India in 2014. She started her career as Veterinary Pathologist in a reputed Stud Farm in Chennai.

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