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Comparative study of metformin and alcoholic extract of *Nigella sativa* in diabetic *Mus musculus*

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Diabetes mellitus currently is a major health problem for the people of the world. It is a chronic metabolic disorder resulting from a variable interaction of hereditary and environmental factors and is characterized by abnormal insulin secretion or insulin receptor affecting β cells of pancreas. Clinically, the disease is associated with a number of chronic complications including nephropathy, neuropathy, retinopathy and cardiovascular diseases. Diabetes mellitus affects a large number of people throughout the world and more so in India. Experts estimate that diabetic population will grow from 195 to 360 million by 2030 almost 4.5% of the global population. Present study included biochemical and histological parameters of mice. Four groups of mice were prepared for comparative study on control, diabetic, metformin and *Nigella sativa*. Diabetic models were prepared in mice by intraperitoneal administration of single dose of alloxan 120 mg/kg b.w. Alcoholic extract of *Nigella sativa* was administered 100 mg/kg b.w per day for eight weeks. Metformin were administered 50 mg/kg b.w per day for eight weeks. In diabetic group of mice urea, uric acid and creatinine were increased. Effective restoration was observed in urea, uric acid and creatinine of *N. sativa* administered group in comparison to Metformin administered diabetic group of mice. Pancreas also shows effective restoration in *N. sativa* administered group. Thus it is concluded from study that alcoholic extract of *Nigella sativa* restores glucose level to normal. *Nigella sativa* acts effectively on diabetes as good as Metformin on biochemical and histological parameters.

Biography

Sneha Navin has completed her MSc Biotechnology from L. N. M. University, Bihar in 2011. She is currently pursuing her PhD under supervision of Professor Jaykarjha, Department of Biotechnology, L. N. M. University, Bihar and Co-supervision of Dr. Ranjit Kumar, Scientist- I, Mahavir Cancer Institute and Research Centre, Patna.

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