



Histopathological studies in plant extract treated Alloxan induced Diabetic Rats

Arunjothi B, Chakrapani P and
Anupalli Roja Rani
Osmania University, India

Diabetes mellitus is a chronic metabolic disorder resulting from insulin deficiency characterized by hyperglycaemia, an altered metabolism of carbohydrates, protein and lipids and an increased risk of vascular complication. In conventional therapy type-I diabetes is managed with exogenous insulin and type-II with oral hypoglycemic agents (sulphonylureas, biguanides etc). In traditional practice medicinal plants are used in many countries to control diabetes mellitus. Alloxan, a drug which is widely used to induce experimental diabetes in animals and its mechanism of action in β cells of the pancreas has been intensively investigated. The cytotoxic action of this diabetogenic agent is mediated by reactive oxygen species and its product of reduction, the dialuric acid, establishes a redox cycle with the formation of superoxide radicals that undergo dismutation to hydrogen peroxide. The objective of this study is to investigate the histopathology of diabetes treated rats. The effect of methanolic extract (300 and 500 mg/kg body weight) of *Erythrina indica* stem bark on alloxan - induced diabetic rats was studied. The histopathological study was investigated in the liver, kidney and pancreatic tissue sections. Pathological lesions were evoked in diabetic rat cells. The extract improves the function of liver, kidney, pancreas and reduce the lesions associated with diabetic state in alloxan induced rats. The effect of oral administration of *Erythrina indica* at a dose of 500 mg/kg body weight was more efficient than the 300 mg/kg body weight. The results indicate the protective effect of methanol extract on tissues and prove its potential as an antidiabetic agent.

Biography

Arunjothi.B pursuing Ph.D under Dr. Anupalli Roja Rani (Associate Professor), Department of Genetics, Osmania University, Hyderabad-500007, Andhra Pradesh, India.