

## **Renoprotective Effect of Alcoholic Extract of *Bacopa monnieri* via Inhibition of Advanced Glycation End Products and Oxidative Stress in Stz-Nicotinamide Induced Diabetic Nephropathy**

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**Abstract :** Diabetic nephropathy (DN) is the major cause of morbidity among diabetic patients. In this study, the effect of *Bacopa monnieri* Linn. (Brahmi, BM), was studied in a Streptozotocin (STZ)-induced experimental rat model of DN. Diabetic nephropathy was induced in Male Wistar rats (body weight-  $300 \pm 10$  gms) by single intra-peritoneal injection of STZ (45mg/kg, i.p.) after 15 min of Nicotinamide (230 mg/kg) administration. Different doses of alcoholic extract i.e. 100, 200 and 400 mg/kg was given for 45 days by oral gavage after induction of DN. Blood glucose level, serum insulin, glycosylated haemoglobin, renal parameters (serum urea, uric acid, creatinine and BUN) and lipid profile (total cholesterol, triglycerides, HDL, LDL and VLDL levels) were measured. Concentration of thiobarbituric acid reactive species (TBARS) and levels of antioxidant enzymes of reduced glutathione (GSH), superoxide dismutase (SOD), and catalase (CAT) were evaluated in the kidney, liver and pancreas. At the end of treatment period the alcoholic extract of BM reduced the elevated level of blood glucose, serum insulin, renal parameters, lipid levels, TBARS, AGE's in kidney and significantly increased body weight, HDL and antioxidant enzymes in dose dependent manner as compared to diabetic control animals. These results suggested the BM possesses significant renoprotective activity.

**Keywords :** AGE's, lipid profile, oxidative stress, renal parameters

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