Hepatoprotective Effect of Methanolic Roots Extract of *Andropogon muricatus* on Bile Duct Ligation - Induced Liver Fibrosis in Rats

Arshad A. NOORANI ¹* & Mohan K. KALE ²

¹ Department of Pharmacology, Mandsaur Institute of Pharmacy, Rajiv Gandhi Proudyogiki Vishwavidyalaya University, MIT campus, Mandsure 458-001, Madhya Pradesh, India.
² Department of Pharmacology, Sharad Pawar College of Pharmacy, Nagpur Universiry, Nagpur 441-110, Maharashtra, India.

**SUMMARY.** *Andropogon muricatus* Retz. is a plant widely used in the traditional medicinal systems of India. The present study was conducted to evaluate the protective effect of methanolic roots extract of *A. muricatus* on bile duct ligation-induced liver fibrosis in rats. Thirty six rats were randomly assigned to six groups: control group, bile duct ligated (BDL) group where the bile ducts of rats were ligated, sham operated group, silymarin as a standard group and BDL group treated with *A. muricatus* at doses of 100 and 200 mg/kg. All the treatment protocols followed 28 days. Extract of *A. muricatus* was evaluated for hepatoprotective activity against BDL induced liver fibrosis using biochemical, morphological, functional and histopathological studies. Extract showed significant hepatoprotective activity against BDL induced liver fibrosis as evident by normalization of substantially elevated levels of aminotransferase, alanine aminotransferase, triglyceride, total bilirubin, direct bilirubin, decreased level of total protein, increased liver weight and volume, increased pentobarbital induced sleeping time and abnormal histopathology. Extract did not show any sign of toxicity up to oral dose of 2000 mg/kg in mice. These results suggest the potential effect of this extract as a hepatoprotective agent towards BDL induced liver fibrosis without any oral acute toxicity effect.

**KEY WORDS:** *Andropogon muricatus*, Bile duct ligation, biochemical parameters, hepatoprotective activity, liver fibrosis.

* Authors to whom correspondence should be addressed. *E-mails: noorani.arshad@yahoo.co.in (A.A. Noorani), kalemkpharm@gmail.com (M.K. Kale).