

## Hepatoprotective activity of methanol extract of aerial parts of *Delonix regia*

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**Received:** 3 September 2011, **Revised:** 29 September 2011, **Accepted:** 30 September 2011

### Abstract

The study was designed to evaluate the possible beneficial effect of methanol extract of aerial parts of *Delonix regia* against CCl<sub>4</sub> induced liver damage in rats. The methanol extract of aerial parts of *D. regia* (400 mg/kg) was administered orally to the Wistar albino rats with hepatotoxicity induced by CCl<sub>4</sub> (2 ml/kg, p.o.). Silymarin (50 mg/kg, p.o.) was given as reference standard. The plant extract was effective in protecting the liver against the injury induced by carbon tetrachloride in rats. This was evident from significant reduction in serum enzymes AST (aspartate aminotransferase), ALT (alanine aminotransferase), ALP (alkaline phosphatase), ALB (albumin), TLP (total protein), DBIL (direct bilirubin) and TBIL (total bilirubin). Histopathological observation showed hugely dilated central vein, disrupted cords of hepatocytes and few hepatocytes shows feathery change, mild inflammation and moderate degree of macro and micro vesicular steatosis. It can be concluded that the methanolic extract of aerial parts of *D. regia* possesses hepatoprotective activity against CCl<sub>4</sub> induced hepatotoxicity in rats.

**Key words:** *Delonix regia*, Hepatoprotective, Aspartate aminotransferase, ALT, ALP, Histopathology, hepatotoxicity

### Introduction

Liver disease is worldwide health problem. Unfortunately, conventional or synthetic drugs used in the treatment of liver diseases are inadequate and sometimes can have serious side effects. In the absence of a reliable liver protective drug in modern medicine, there are number of medicinal preparations in Ayurveda recommended for the treatment of liver