

HEPATOCURATIVE EFFECT OF *BERBERIS LYCIUM* (ROYLE) IN HEPATOTOXIC RABBITS

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ABSTRACT

The aim of present study was to evaluate the hepatocurative effect of *Berberis lycium* Royle (*BIR*) root bark in hepatotoxic rabbits. Hepatopathy was induced by oral administration of paracetamol suspension (2000 mg/kg body weight). Twenty rabbits were divided into 4 groups such as group A, B, C and D (n=5). Group A and B served as normal and paracetamol treated respectively while rabbits in group C and D were drug treated and received (500 mg/kg body weight) crude powder and methanolic extract of *BIR* for 10 days respectively. Increase in transaminases (SGOT, SGPT), ALP, thiopental Sodium induced sleeping time, and blood clotting time was observed with paracetamol treatment in different groups. These values significantly decreased in group C and D when compared with group B after seven and ten days treatment with drug. These results indicate that *BIR* contains some active constituent(s) responsible for its hepatocurative activity in paracetamol treated rabbits.

INTRODUCTION

Liver is the largest metabolic organ of the body and is positioned beneath the diaphragm in the right hypochondrium of the abdominal cavity (Kumar and Cotram, 2000). Being the major drug-metabolizing and drug-detoxifying organ of the body, the liver is subjected to potential damage from an enormous array of pharmaceutical and environment chemicals (Kumar and Cotram, 2000). Acute liver injury involves the parenchyma cells of liver, bile secretory function or both (Gill and Sterling, 2000). Some drugs such as Paracetamol produce hepatic injury that is toxic in nature characterized by overt damage to hepatocytes (Habscheid *et al.*, 1999).

BIR is thorny shrub belongs to family Berberidaceae commonly known as Ishkeen (Local name) present in Himalaya region of India and Pakistan. In Pakistan *BIR* is widely distributed in the northern areas such as Gilgit and Beltistan. Berberidaceae is a famous family having a lot of medicinal uses and is included in British and Indian Pharmacopoeias.

One of the species called *Berberis aristata* is reported as hepato-protective (Janbaz and Gilani, 2000). Fruit of another plant known

as *Berberis vulgaris* from the same family have anticholinergic and antihistaminic effects (Shamas *et al.*, 1999). Berbamine, an alkaloid separated from *BIR*, is reported to have antihypertensive (Khan *et al.*, 1996). *Berberis lycium* is also reported to have antihyperlipidemic effect in broilers (Chand, *et al.*, 2007). *BIR* root is used in the treatment of jaundice by local inhabitants of Himalaya region (Hamayun *et al.*, 2006; Aslam, 2006). We conducted this study to provide scientific evidence in support of this folkloric claim.

MATERIALS AND METHODS

Plant material

BIR root was collected from District Gilgit Pakistan by a native researcher Alamgeer in the month of April. *BIR* root was identified and authenticated by Dr. Bukhari Department of Botany (Exdirector) Bahauddin Zakariya University, Multan, Pakistan. A voucher specimen is preserved at Department of pharmacy, Bahauddin Zakariya University, Multan, Pakistan with voucher no (DOP# *BIR* 604) for future reference. Bark was shade dried and powdered using Chinese herbal grinder.