

Effect of Aqueous Extract of *Aristolochia Bracteolata* Leaves on Paracetamol Induced Liver Toxicity in Rats

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Abstract

The present study is aimed at determining the hepatoprotective effect of aqueous extract of *Aristolochia bracteolata* leaves in paracetamol induced liver injury model in rats by administering paracetamol on the 4th day @2g/kg b.wt. orally. Group III and IV rats were pretreated with *A. bracteolata* leaf extract @200mg/kg b.wt and Silymarin @200mg/kg b.wt, orally once daily for the first 3 days respectively. After the experimental period liver tissues were collected and subjected to histopathological analysis. The histopathological studies showed marked restoration of cellular abnormalities.

Key words: *Aristolochia bracteolata*, Rat, Hepatotoxicity

Aristolochia bracteolata commonly is used for its purgative, antipyretic & anti-inflammatory properties in the Indigenous system of Medicine (Chawla *et al.*, 2013). The present study was designed to determine the effect of the aqueous extract of *A. bracteolata*

leaves on paracetamol induced liver toxicity in experimental rats.

Materials and Methods

Rats were randomly divided into four groups with six rats in each group. Group I rats received normal saline for the total experimental period of 4 days, while rats in groups II, III and IV were administered Paracetamol on the 4th day @2g/kg b.wt. (Kumar *et al.*, 2006). Group III and IV rats were pretreated with *A. bracteolata* leaf extract @200mg/kg b.wt and Silymarin @200mg/kg b.wt, orally once daily for the first 3 days respectively. After the experimental period, animals were euthanized. After the sacrifice, portions of the liver were collected in neutral buffer formalin (NBF) and the section was stained with haematoxylin and eosin (H & E) for histopathological analysis. The experiment was conducted in accordance with the guidelines of committee for the purpose of control and supervision of experiments on animals (190/CPCSEA).

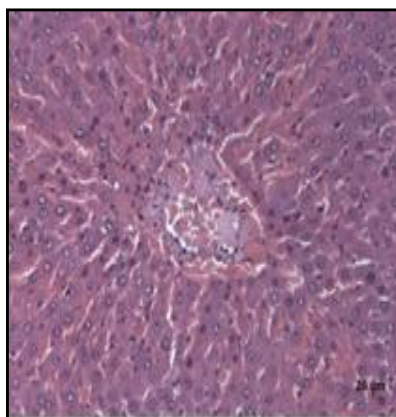


Fig 1: Paracetamol - liver- haemorrhage - congestion

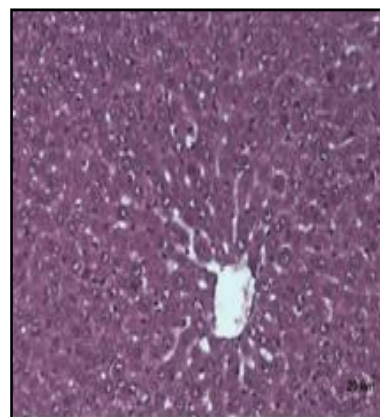


Fig 2: Paracetamol + silymarin - Normal parenchyma

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Results and Discussion

The untreated rat liver showed normal tissue and cell structure, tight cell contact and liver was filled with polygonal cells with well preserved cytoplasm and prominent nucleus. The histological observation showed multifocal congestion, haemorrhage, vacuolar degeneration in the paracetamol treated group II rats (Fig. 1). The normal liver structure was maintained in groups III and IV pretreated with silymarin and aqueous extract of *A.bracteolata*, (Fig. 2). Rajasekaran and Periyasamy (2012) also reported paracetamol induced severe necrosis and disappearance of nuclei and liver tissue from paracetamol + silymarin treated group had normal hepatic cells with portal vein and portal artery. Although, the aqueous extract

of *A. bracteolata* treated group showed mild congestion and haemorrhage. The histopathological studies showed marked restoration of the cellular abnormalities.

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***Haemoproteus rileyi* Malkani, 1936 in a Free Ranged Indian Peacock (*Pavo cristatus*)**

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Abstract

A one-and-a-half year old Indian peacock (*Pavo cristatus*) weighing 16.5 kg was presented by the forest Department with the history of anorexia followed by lateral recumbency. Clinical examination revealed dehydration and anaemia. Blood was collected from wing vein and thin smear was prepared. It was stained with Leishman and Giemsa cocktail stain and based on morphological characters *H. rileyi* was confirmed. The bird was administered Buparvaquone @ 5 mg/kg Body weight and advised multi-vitamine supplementation orally.

Key words: Indian peacock, *Haemoproteus rileyi*

Peacock is the national bird of India in 1963 (Ali and Ripley, 1980). *Hemoproteus rileyi* is a rare recorded haemoprotozoan infection of peacock. The infection is generally of non-pathogenic nature but can causes clinical diseases in stressed condition or may be even fatal in younger birds (Zinkl, 1986 and Soulsby, 2012) with no visible symptoms. This paper records the *Haemoproteus rileyi* infection in a free ranged Indian peacock.

Case History and Observations

A one-and-a-half year old Indian peacock weighing 16.5 kg was brought by the forest Department to the Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli, Tamil Nadu with the history of

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