

DOI: <https://dx.doi.org/10.18203/2319-2003.ijbcp20214846>

Original Research Article

## Effect of nephroprotective *Ficus dalhousiae* bark extract on gentamicin induced with combination of benzoic acid nephrotoxicity in rats

Roshan Jahan\*, Sangeeta Singh

Department of Pharmacy, Institute of Pharmaceutical Sciences and Research, Unnao, Lucknow, Uttar Pradesh, India

Received: 16 July 2021

Revised: 11 December 2021

Accepted: 13 December 2021

### \*Correspondence:

Dr. Roshan Jahan,

Email: roshanjahan9503@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

**Background:** The *Ficus dalhousiae* plant (Anjeer family) is. Its important parts-leaves, stem, bark and root are. The current study is design to effect of *Ficus dalhousiae* bark extract on gentamicin (GM) induced with combination of benzoic acid (BA) nephrotoxicity in rats.

**Methods:** In acute toxicity studies animals are fasted before being dosed; kept overnight. Depending on the time interval. The beginning dose will be chosen from one of four predetermined levels: 5, 50, 300, or 2000 mg/kg of body weight. The animals are evaluated for 4 and 48 hours. In nephroprotective studies we are taken 30 rats which will be divided into 5 groups. proceed group by group like-control with normal saline, BA (100 mg/kg/bodyweight, IP) daily, hydroalcoholic extract of *Ficus dalhousiae* (200 mg/kg/body weight, PO) and simultaneously administered GM (100 mg/kg/body weight, IP) daily for 9 days. And we are doing difference types of estimations, like-blood urea, uric acid and serum creatinine.

**Results:** *Ficus dalhousiae* bark extract on BA action on serum creatinine and urea levels in rats given GM. When compared to control rats, eight days of GM treatment resulted in significantly higher serum creatinine and urea levels. However, BA pretreatments have significantly improved serum creatine and urea ( $p < 0.001$ ) to reduce GM-induced nephrotoxicity ( $p < 0.01$ , resp.).

**Conclusions:** *Ficus dalhousiae* has significant nephroprotective activity in nephroprotective studies, acute toxicity activity and various such type of estimations like- blood urea, uric acid and creatinine.

**Keywords:** *Ficus dalhousiae*, BA, GM, Nephro-protectivity, Rats

### INTRODUCTION

In ancient system of medicine to all of the plant which have major component of medicinal effect in all the parts of the plant better startup for origin of effective chemical substances which may leads to newformation of the drug.<sup>1</sup> Some herbal therapies have been utilized to treat the illness since ancient times. Non-nutrients are nutrients that have preventive or protective functions. This review begins with comprehensive discussion of plant's phytopharmacological profile, followed by critical examination of ethnobotanics or traditional uses.<sup>2</sup>

Green medications are healthier and synthetically safer.<sup>3</sup> The *Ficus* family, usually known as the figs or figs tree, is belonging a *Moraceae* family which have about 850 woody trees, vines, hemicycles and bustles. *Ficus* is a *Moraceae* genus with almost 100 species. From *Ficus dalhousiae* liver and skin problems are treated.<sup>4</sup>

*Ficus dalhousiae* is 9-12 ST omega-tree with soft, glabrous juvenile branches. For a long time, hepatitis and skin disorders treated. Part of human society to fight diseases in civilization began.<sup>5</sup> *Ficus dalhousiae* (Morphological characters): height-10-meter, color-bark brown, petioles-5-10 cm, lateral nerves-10-12 pairs, peduncle-8 mm long,