

Antinociceptive Activity of *Vitis trifolia*

F. Ahmed¹, K. M. Rahman¹, S. M. M. Alam² and Mohammad Mehedi Masud³

¹Pharmacy Discipline, Khulna University, Khulna-9208, Bangladesh

²Ministry of Foreign Affairs, Government of Peoples' Republic of Bangladesh, Dhaka, Bangladesh

³Department of Pharmaceutical Chemistry, University of Dhaka, Dhaka-1000, Bangladesh

The crude methanolic extract of the aerial parts of *Vitis trifolia* was investigated for its possible antinociceptive activity using acetic acid induced writhing model in mice. The extract significantly ($P < 0.001$) reduced the number of acetic acid-induced abdominal constriction (writhing) in mice at 250 and 500 mg/kg of body weight, which was comparable to the standard drug, diclofenac sodium.

V. trifolia Linn. (Family: Vitaceae), commonly known as 'Amallata' is a climber and is distributed throughout India, Ceylon, Malay and Java. In Bangladesh, it is also known as 'Bundal' and 'Roktomurmur' as well. Roots are used in inflammation of spleen, liver and heart diseases, blood purification and biliousness.¹ The whole plant is used as tonic, stomachic and expectorant.² Kundu *et al.* isolated epifriedelanol from this plant and reported its anti-tumor activity.³ The present study was carried out to evaluate the antinociceptive activity of the methanolic extract of the aerial parts of *V. trifolia*.

The plant was collected from the district of Khulna and was taxonomically authenticated at the Bangladesh National Herbarium, where a voucher specimen (accession no.: 29753) has been deposited.

Correspondence to: Mohammad Mehedi Masud
Tel.: 880-2-9661900-59, ext. 8139 Fax: 880-2-8615583
E-mail: mehedi33@yahoo.com

The collected plants were dried for one week after cutting into small pieces and were ground into coarse powder with the help of a grinder (Capacitor start motor, Wuhu motor factory, China). About 400 gm of powdered material was soaked in 1300 ml of aqueous 90% methanol at room temperature for a period of 7 days with occasional shaking and stirring. The whole mixture was then filtered off through a piece of clean, white cloth followed by a filtration through whatmann filter paper, and the filtrate thus obtained was concentrated by using a rotary evaporator (Bibby RE200, Sterilin Ltd., UK) to obtain a viscous mass. The viscous mass was then kept at room temperature under a ceiling fan to obtain a dried extract (yield : 14%). The crude extract thus obtained was used for the pharmacological screening.

Swiss-albino mice of either sex, weighing 20-25 g were used as experimental animals, and diclofenac sodium (Square Pharmaceuticals Ltd., Bangladesh) was used as standard drug for this study.

The antinociceptive activity of *V. trifolia* was studied using acetic acid induced writhing model in mice.^{4,5} The animals were divided into control, positive control and test groups with ten mice in each group. The animals of test groups received test substance at the doses of 250 and 500 mg/kg body weight, positive control group was administered diclofenac sodium at 25 mg/kg of body weight and vehicle control group was treated with 1% Tween 80 in water at the dose of 10 ml/kg body weight orally 30 min before intraperitoneal administration of 0.7%

acetic acid. After an interval of five minutes, the mice were observed for specific contraction of body referred as 'writhing' for 15 min.

The extract produced about 56% and 79% writhing inhibition at 250 and 500 mg/kg of body weight respectively, which were comparable to the

standard drug diclofenac sodium where the inhibition was 74% at the dose of 25 mg/kg of body weight (Table 1). On the basis of the results of acetic acid induced writhing test, it can be concluded that the methanolic extract of *V. trifolia* possesses antinociceptive activity.

Table 1. Effect of aqueous methanolic extract of *V. trifolia* on acetic acid induced writhing in mice

Animal group	Number of writhes (% writhing)	Inhibition (%)
Control (n=10)	9.4 ± 0.37	-
1% Tween-80 solution in water, p.o.	(100)	
Positive control (n=10)	2.4 ± 0.53*	74.47
Diclofenac sodium 25 mg/kg, p.o.	(25.53)	
Test group-1 (n=10)	4.1 ± 1.01*	56.39
Me. Extract 250 mg/kg, p.o.	(43.61)	
Test group-2 (n=10)	2.0 ± 0.67*	78.73
Me. Extract 500 mg/kg, p.o.	(21.27)	

Values are expressed as mean ± S.E.M. *, $P < 0.001$ vs. control. Me., methanolic. %, percentage. p.o., per oral. n = Number of mice.

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