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Antipyretic activity of ethnomedicinal plant *Hydrocotyle javanica*

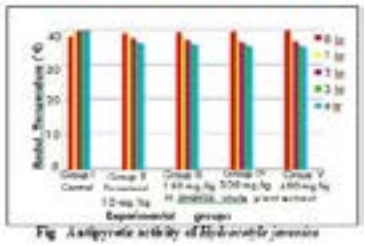
Krithika N
Presidency College, India

Statement of the Problem: Fever or pyrexia is an elevation of body temperature that exceeds the normal daily variation and occurs in conjunction with an increase in the hypothalamic set point from 37˚C to 39˚C. The objectives in treating fever are first to reduce the elevated hypothalamic set point and second to facilitate heat loss. A trigger of the fever causes a release of prostaglandin E2 (PGE2). Antipyretic property of medicinal plants can be assumed to be mediated through interference of prostaglandin synthesis and inhibition of cytokines release. The present study was proposed to assess the antipyretic activities of ethnomedicinal plant *Hydrocotyle javanica* Thunb. (Apiaceae) on Wistar albino rats

Methodology & Theoretical Orientation: Brewer's yeast (sub-cutaneous injection of 20% aqueous suspension of dried yeast in 2% gum acacia at a dose of 20 ml/kg below the nape of the neck) was used to induce pyrexia in the all experimental rats after measuring their initial rectal temperatures. The test animals were then divided into five groups. Group I was the control and, group II was administered the reference drug paracetamol. Group III, IV and V rats were administered the plant extract of dosage 150, 300 and 450 mg/kg of body weight respectively. Rectal temperatures of the test rats were recorded after 18 hrs. Of inducing pyrexia for every one hour up to 23 hours, against the standard reference drug paracetamol

Findings: The whole plant methanol extract of *H. javanica* (300 and 450 mg/kg b. wt.) significantly attenuated hyperthermia in test rats in 1 hr. observation (p<0.01) and was even more significant (p<0.001) from 2-6 hrs. Observation period in comparison to control. The brewer's yeast elevated the body temperature in the rats to 39.38±0.16°C after 24 hrs., which was brought down to 36.12±0.16°C in 3 hrs. after treatment with 150 mg/kg of *H. javanica* extract. Whereas the other doses 300 and 450 mg/kg of *H. javanica* plant extract reduced the elevated body temperature to 36.54±0.24˚C and 36.72±0.56˚C respectively after 2 hr.

Conclusion & Significance: *Hydrocotyle javanica* evinced a significant antipyretic effect in yeast-provoked elevation of body temperature in experimental rats, and its effect is comparable to that of paracetamol. The investigated plant *Hydrocotyle javanica* is a febrifuge and could be recommended as a potent antipyrexia agent/ source of phytotherapeutic ingredient.



Recent Publications:

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2. Sharma J P, Srivastava A, Thakur S P, Barpete P K and Singh S (2010) Herbal medicine as antipyretic: A comprehensive review. International Journal of Pharmacy & Life Sciences 1:18-22.
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Biography

Krithika N is a Faculty of Botany and completed her PhD in the field of Medico-Botany in January 2018. Her in-depth knowledge in Botany especially, medicinal plants have helped in assessing the pharmacological aspects of an ethnomedicinal plant used by natives of Nilgiris, Tamilnadu, India. She has based her study with reference to *Hydrocotyle asiatica (Centella)* of family Apiaceae on which enormous studies have been reported. This is one of the study on the chosen plant *Hydrocotyle javanica* Thunb. Her few of the studies has won best paper and best oral presentation awards at various conferences. She has nearly ten research publications.

krithikadharma@hotmail.com

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