

Analgesic activity and acute toxicity study of *Semecarpus anacardium* stem bark extracts using mice

G. M. Lingaraju, H. Joy Hoskeri, V. Krishna, P. Suresh Babu

P.G. Department of Studies and Research in Biotechnology and Bioinformatics, School of Biological Sciences, Kuvempu University, Shankaraghatta - 577 451, Karnataka, India.

ABSTRACT

Background The analgesic activity of petroleum ether, chloroform and methanol extracts of *Semecarpus anacardium* was investigated by tail flicking and writhing method using acetyl salicylic acid as the standard reference. **Materials and Methods** The staircase method was adopted for the determination of the acute toxicity. LD₅₀ of the petroleum ether extract and the chloroform extract was 700 mg/kg; however, the LD₅₀ for the methanol extract was 500 mg/kg. After 1 h of oral administration of the extracts, 0.6% acetic acid was administered intraperitoneally and the analgesic activity was evaluated. **Results** The number of writhing observed in the control group was 73.33 writhes. The methanol extract showed a significant analgesic activity, with 28.33 writhes, than the petroleum ether extract and the chloroform extract. But, all the extracts showed proved to be less potent than the standard drug which showed 2.33 writhes. Animals pretreated with saline did not show a significant effect on the latent period of tail-flick response. The analgesic effect of the petroleum ether extract was comparatively less evident. The maximum possible analgesia (MPA) increased up to 9.1% which remained elevated above the basal levels throughout the observation period. The MPA calculated for the chloroform extract increased to 14.03%. However, the analgesic effect of the methanol extract was also observed at 0.5 h following oral administration and the effect remained significant throughout the 3 h observation period, and was increased to 20.43%. **Conclusion** Consistent analgesic activity of all the three *S. anacardium* extracts was observed by both the methods. The methanol extract was more potent than the petroleum ether and chloroform extracts but was less effective than the standard drug. This investigation supported the ethnomedicinal claims of *S. anacardium*.

KEYWORDS

Acute toxicity study . crude extracts . tail-flicking method . writhing method

REFERENCES