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Toxicity, Analgesic, and Anti-Pyretic Activities of Methanolic Extract from Hyoscyamus albus' Leaves in Albinos Rats

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Abstract : Objective: The aim of this study was to investigate the toxicity; analgesic and anti-pyretic properties of standardized HA methanolic extract (HAMeOH) in vivo. Methods: The acute toxicity study was performed on rats while adopting the OECD-420 Guidelines (fixed dose procedure). Assessment of analgesic activity was performed in rats with two analgesic models. One was acetic acid induced writhing response and the other formalin-induced paw licking. The anti-pyretic effect was tested by Brewer's yeast induced fever in rats. Results: For the acute toxicity test, the higher dose administration of 2000 mg/kg bw. of H.albus did not produce any toxic signs or deaths in rats. There were no significant differences ($p>0.05$) in the body and organ weights between control and treated groups. The (LD50) of 'H. albus' was higher than 2000 g/kg bw. In subacute toxicity study, no mortality and toxic signs were observed with the doses of 100 and 200 mg/kg bw. of extracts of for 28 consecutive days. These analgesic experimental results indicated that HAMeOH (100 mg/kg and 200 mg/kg) decreased the acetic acid-induced writhing responses and HAMeOH (100 mg/kg and 200 mg/kg) decreased the licking time in the second phase of the formalin test. Moreover, in the model of yeast-induced elevation of the body temperature HAMeOH showed dose-dependent lowering of the body temperature up to 3h at both the doses these results obtained, were comparable to that of paracetamol. Conclusion: The present findings indicate that the leaves of Hyoscyamus albus L. possess potent analgesic and antipyretic activity.

Keywords : Hyoscyamus albus, Umbilicus rupestris, secondary metabolites, NMR with protons, pharmacobiologic activities, methanolic extract
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