

Abstract:

Introduction: Recent studies have shown that anticholinergic alkaloid compounds have antinociceptive property. Regarding to the presence of anticholinergic alkaloid compounds in henbane (*Hyoscyamus Niger*) and due to the expressing of this plant as sedative in the traditional medicine of Iran, in the present study the antinociceptive effect of henbane was examined. In the first experiment, the acute and chronic pain levels of male rats were assessed using formalin test. The effect of oral administration and i.p injection of alcoholic extract of henbane on pain perception were then examined.

Materials and Methods: Male NMRI rats weighting 300-350 gr were chosen, and alcoholic extract of henbane seed at 500, 1000 and 2000 mg/kg doses were injected to them (n=10) intraperitoneally. Also oral henbane seed 1/14 in pelleted food was given to another group of rats (n=8) for 2 weeks. Acute and chronic pain thresholds in control group (n=8) and mentioned experimental groups were assessed by formalin test. In addition, the antinociceptive effect of sodium salisilate as a positive control group was examined.

Results: Statistical analysis shows that injection of alcoholic extract of henbane seed in any given doses decreases the formalin-induced acute and chronic pain significantly ($P<0.001$). In addition, oral administration of henbane seed can increase formalin-induced chronic pain threshold ($P<0.001$) significantly.

Conclusion: Our results indicate that henbane extract injection has significant antinociceptive effect on acute and chronic phases of formalin test. In addition, oral administration of henbane seed has only antinociceptive effect on formalin-induced chronic pain. It could be resulted from different mechanisms of extract injection and oral administration in acute pain.

Key words: Pain, Henbane, Rat