Original Paper

Anti-nociceptive effect of alcoholic extract of henbane seed on the different phases of estrous cycle of female Rats

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Abstract

Background and Objective: The findings of various research indicated that there are different responses to painful thermal stimulation in male and female Rats. In different estrous phases there are different pain thershold border line due to hormonal reaction. Regarding to anti-nociceptive effect of henbane seed. This study was designed to assess the anti-nociceptive afficacy of alcohole extract of henbane seed in different phases of estroes cycle of female Rates.

Materials and Methods: In this experimental study 92 female NMRI strain rats weighing 195-220 grams randomly were divided into three, control, experimental and positive groups. Male Rats (n=8) were chosen as control group. To measure the threshold of acute pain, all animals were exposed to the tail immersion test using 52 °c water. In the experimental group, alcoholic extract of henbane seed (2000 mg/kg) was injected, intraperitoneally, 25-30 minutes before the tail immersion test. Afterwards, in the all of control and experimental groups of female rats the smear samples were taken to determine the sexual phases. In addition, the analgesic effect of henbane was compared with anti-nociceptive effect of sodium salicylate (300 mg/kg).

Results: Injection of alcoholic extract of henbane seed, diminished the tail immersion test-induced acute pain in female rats significantly ($P<0.05$). also, no significant differences of analgesic effect of henbane extract were seen among various phases of estrous cycle in female rats. There is no significant differences of analgesia between henbane and salicylate-treated groups.

Conclusion: This study determined that female rats in different phases of estrous cycle have similar pain thresholds and the alcoholic extract of henbane seed is effective in the relief of pain in the various phases of estrous cycle.

Keywords: Henbane seed, Acute pain, Estrous cycle, Rat

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