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Background and Aim: Memory retrieval is recall of previously consolidated information and memory extinction is the process of previously consolidated memories being forgotten after recalled and actively consolidated. Although a few recent studies have reported the effects of acute stress on fear memory retrieval and extinction, but the mechanism are not well known and existing data are still controversial. We investigated the effects of acute stress and their possible interaction with GABAB receptors on fear-based memory retrieval and extinction in mice.

Methods: Male adult mice were trained and tested in an inhibitory avoidance task. For retrieval assessment, 30 min before stress and one hour before retention test (48 hr after training) the animals received CGP55845 1mg/kg as an antagonist of GABAB receptors. For assessment memory extinction, one hour before of reactivation memory (48 hr after training) animal received above drug and then received stress. Memory test was done 2, 5, 7 and 9 days after memory reactivation.

Results: The results show that acute stress impaired memory retrieval and enhanced extinction of memory in subsequent tests. Pre-treatment with GABAB receptors antagonist inhibited and potentiated the effects of acute stress on both memory retrieval, and extinction respectively.

Conclusion: These findings indicate that GABAB receptors modulate the effects of stress on memory retrieval and extinction.

Keywords: Memory retrieval and extinction, Acute Stress, GABAB receptors, Fear Memory, Passive avoidance task

Anti-inflammatory effects of hydroalcoholic extract of heated female Cannabis sativa flowers following intrathecal administration in rat

Subject: Other related topics- inflammation

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Background and Aim: Introduction: Tetrahydrocannabinolic acid (THCA) and Cannabidiolic acid (CBDA) are two major decarboxylated cannabinoid found in hydroalcoholic extract of female Cannabis sativa flowers, heating change them to Tetrahydrocannabinol (THC) and Cannabidiol (CBD) respectively, chemicals that are able to activate the endocannabinoid system. This investigation is to find out the effects of the central or intrathecal administration (i.t.) of the plant heated extract on the inflammatory paw edema in rat.

Methods: Material and methods: The adult male Wistar rats (250-300 g) initially were subjected to i.t. surgery as 8cm of PE-10 cannula was inserted into the spinal subarachnoid space. Groups (n=7) were included: control, sham (salin+tween+ethanol, i.t.) and plant extract treatment (0.01mg/10 μ l, i.t.). 5 min after i.t. administration, before and one hour after 0.05 ml injection of formalin 2/5% in the sub plantar region of hind paw, edema volume were recorded using plethysmometer.

Results: Results: Hydroalcoholic extracts of heated flowers could significantly reduce formalin-induced paw edema ($p < 0.05$).

Conclusion: Conclusion: Carboxylated cannabinoid such as THC and CBD are probably present in the extract which probably elevate the level of central endocannabinoids, especially Anandamide, may be by inhibition of their reabsorption and degrading enzymes. All these can suppress inflammatory paw edema by inhibition at the level of spinal cord; these assumptions are needed to investigate more.

Keywords: THC, CBD, Edema, inflammation, intrathecal administration.

Heated female cannabis sativa flowers hydroalcoholic extract effects on thermal and chemical pain at the level of spinal cord

Subject: Pain

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Background and Aim: Introduction: Pain is a feeling that produces unpleasant experience along with tissue damage. Cannabinoids are compounds, found endogenous in the body, in plant and synthetic types and exert different effects on body via activation of endocannabinoid system. Flower of female cannabis