Original Paper

Analgesic and anti-inflammatory effects of ethanolic extract of *Hyssopus officinalis* in mice

Azadeh Salehi (M.Sc)¹, Mahbubeh Setorki (Ph.D)*²

¹M.Sc in Animal Physiology, Department of Biology, Izeh Branch, Islamic Azad University, Izeh, Iran.
²Associate Professor, Department of Biology, Izeh Branch, Islamic Azad University, Izeh, Iran.

Abstract

**Background and Objective:** Finding the pain relieving substances is one of the important aims of biological researches. This study was done to evaluate the antinociceptive, anti-inflammatory effects of *Hyssopus officinalis* extract in mice.

**Methods:** In this experimental study, 100 male adult mice were allocated into 5 experimental groups including control group receiving only normal saline and groups that received extract of *Hyssopus officinalis* at doses of 25, 50 and 75 mg/kg/bw, and positive control group in formalin test received morphine in acute and chronic phase of experiment and positive control group in anti-inflammatory test received dexamethasone. Formalin-induced paw licking was used to determine the antinociceptive activity of *Hyssopus officinalis* extract. The anti-inflammatory activity was determined by Xylene test.

**Results:** In the acute phase of pain (the first 5 minutes), doses of 50 and 75 mg/kg/bw (7.75±2.3, 8.75±2.1) of the *Hyssopus officinalis* extract significantly reduced the number of feet raised (P<0.05). Also, in the chronic phase of pain (20 min second), 25, 50 and 75 mg/kg/bw of doses (17.25±2.3, 11.75±2.9, 2.7±10.75) and morphine significantly reduced the duration of foot lift (P<0.05). The extract of *Hyssopus officinalis* with three doses of 25, 50 and 75 mg/kg/bw (13.33±3.1, 20±3.1, 19.83±2.8) showed high anti-inflammatory activity against Xylene induced ear edema (P<0.05).

**Conclusion:** This study showed that *Hyssopus officinalis* extract can inhibit pain and inflammation in animal model.

**Keywords:** *Hyssopus officinalis*, Formalin test, Xylene test, Pain, Inflammation, Mice

*Corresponding Author: Setorki M (Ph.D), E-mail: doctor.setorgi@gmail.com

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Azadeh Salehi (https://orcid.org/0000-0001-9654-6339), Mahbubeh Setorki (https://orcid.org/0000-0001-6983-9929)