

عنوان مقاله:

Anti-nociceptive and anti-inflammatory effects of hydroalcoholic extract and essential oil of *Pinus eldarica* in animal models

محل انتشار:

مجله گیاهان دارویی ابن سینا، دوره 11، شماره 5 (سال: 1400)

تعداد صفحات اصل مقاله: 11

نویسندگان:

Valiollah Hajhashemi - *Department of Pharmacology and Isfahan Pharmaceutical Sciences Research Center, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, Iran*

Behzad Zolfaghari - *Department of Pharmacognosy, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, Iran*

Pooya Amin - *Department of Pharmacology and Isfahan Pharmaceutical Sciences Research Center, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Isfahan, Iran*

خلاصه مقاله:

Objective: Several species of *Pinus* have shown anti-nociceptive and anti-inflammatory properties. This study was aimed to evaluate anti-nociceptive and anti-inflammatory effects of hydroalcoholic extract of bark and essential oil of leaves of *P. eldarica* in animal models. **Materials and Methods:** Hydroalcoholic extract of bark and essential oil of leaves of *P. eldarica* were prepared and phenolic content and essential oil composition were analyzed using Folin-Ciocalteu method and GC/MS, respectively. Anti-nociceptive effect was assessed using acetic acid, formalin and hot plate tests in male Swiss mice (25-30 g) and for evaluation of anti-inflammatory activity, carrageenan test in male Wistar rats (180-200 g) and croton oil-induced ear edema in male mice, were used. Involvement of opioid, α -adrenergic, δ -HT μ receptors and adenosine triphosphate (ATP)-dependent K $^{+}$ channels in pain relief was tested using naloxone, ondansetron, yohimbine and glibenclamide. **Results:** The total phenolic content of the extract powder was 404.9 ± 7.7 mg/g of the extract powder. *P. eldarica* hydroalcoholic extract (200 and 400 mg/kg) and essential oil (100 and 200 μ l/kg) significantly (all, $p < 0.001$) decreased pain behavior in acetic acid and formalin tests but not in hot plate test. The extract and essential oil suppressed edema in carrageenan and croton tests. Glibenclamide partially reversed the anti-nociceptive effect of hydroalcoholic extract while the other antagonists were ineffective. **Conclusion:** Hydroalcoholic extract of bark and essential oil of leaves of *P. eldarica* significantly decreased acute and chronic pain as well as inflammation. ATP-dependent K $^{+}$ channels mediate a part of the observed anti-nociceptive effect.

کلمات کلیدی:

Analgesic, Anti-inflammation, Herbal Medicine, *Pinus eldarica*

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1259282>



