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Abstract

Anti-inflammatory effect of *Allium akaka* extract on the inflammation induced by carrageenan in rats

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Background and objectives: *Allium akaka*, locally known "*Valak*" a member of the Amaryllidaceae family, is widely used in Iranian folk medicine for its wound healing, antibacterial, anthelmintic, and diuretic properties. The aim of the present work was to evaluate the anti-inflammatory effect of *Allium akaka* hydro-alcoholic extract on carrageenan-induced models of inflammation by investigation of the changes in serum levels of C-reactive protein (CRP) in various treatment groups. **Methods:** Sixty five rats were divided to five groups (n=13); one control, one positive control group and three experimental groups treated by 200, 400 and 600 mg/kg extract, respectively. 1, 6, 12 and 24 hours before carrageenan injection, the extract was administered through oral gavage. Serum CRP in all treatment groups was tested by enzyme immunoassay. **Results:** The results revealed that immediately after inflammation induction, indomethacin decreased the inflammation. Similarly, *Allium akaka* extract resulted in immediate amelioration of the inflammation. Moreover, as time passed and the treatment continued, different treatments exerted their effect and reduced the inflammation though lower doses of *Allium akaka* showed no significant effect. In addition, level of CRP in all treatment groups was nearly similar to the control group implying that treatment either by indomethacin or 600 mg/kg *Allium akaka* successfully lowered the CRP level to the control level and hence, reduced the consequences of inflammation in body. **Conclusion:** Measurement of inflammation treated using 600 mg/kg *Allium akaka* extract showed more efficiency compared to the lower doses as well as indomethacin implying to the possibility of using this dose as a treatment for inflammation.

Keywords: *Allium akaka*, carrageenan, CRP, inflammation, rats

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