

## Anti-inflammatory and Hemostatic Activities of Methanolic Extract from Atriplex Halimus. Leaves

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**Abstract :** Introduction: chenopodiaceae family species are known for their important biological activity, in which Atriplex halimus belongs . However, the inflammatory effect of this plant leaves has not been studied. This work aimed at assessing the anti- inflammatory and hemostatic activities of the methanolic extract AHMeOH of Atriplex halimus's leaves. Methods: The extract was obtained using sonication of leaves powder in 80 % methanol. The analysis of phenolic compounds was carried out using thin-layer chromatography (TLC).The anti-inflammatory activity was determined by studying the plasmal membrane stabilization and albumin denaturation inhibition, the hemostatic activity was evaluated by measuring the plasma in the blood. Results: Quantitative determination of total flavonoids reveals that AHMeOH is rich in flavonoids ( $16 \pm 0.88 \mu\text{g Q / mg extract}$ ) and polyphenols ( $20 \pm 0.20 \mu\text{g AG / mg extract}$ ). about anti-inflammatory activity, the tests show that AHMeOH has a significant effect ( $P \leq 0.05$ ) of inhibiting hypotonic-induced hemolysis with concentrations (100 and 200  $\mu\text{g / ml}$ ) with 77.55 and 90% respectively, and heat-induced hemolysis with percentages 81.75% and 87.44% respectively with significant difference ( $P \leq 0.05$ ). The obtained results with this plant reveal that the inhibition of denaturation of albumin is dose dependent. The concentration of 400  $\mu\text{g / ml}$  gives denaturation inhibition of  $81.00 \pm 17.70\%$  and the concentration 600  $\mu\text{g / ml}$  gives an effect of  $82.95 \pm 17.40\%$ . Regarding the haemostatic activity our extract with the doses 10 mg / ml, 20 mg / ml and 30 mg / ml confer a decrease of the plasma recalcification time in the tube, these concentrations could prolong the time of coagulation significantly compared to the control ( $P \leq 0.001$ ). This result is an interesting indication in favor of haemostatic activity of AHMeOH. Conclusion: Atriplex Halimus has a strong anti-inflammatory activity and constitutes a potential source for the development of new treatments.

**Keywords :** albumin, atriplex halimus, hemostatic activity, methanolic extract

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