Anti-Edematous and Anti-Lipid Peroxidation Properties of Methanolic Extracts of Urtica Pilulifera L.

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Abstract:

The plant species Urtica pilulifera is widely distributed in the Mediterranean basin and North Africa. It shows numerous beneficial pharmacological effects (anti-asthmatic, astringent, diuretic, hemostatic and anti-inflammatory). The present study is devoted to analyze the antioxidant and anti-inflammatory activities of methanolic extracts of fruits (F.E) and leaves (L.E) of Urtica pilulifera, by carrying out linoleic acid peroxidation and ear edema induced by croton oil tests that highlight the presence of antioxidant and anti-inflammatory substances, such as flavonoids and polyphenols. The obtained results showed that both extracts considerably inhibited the oxidation of linoleic acid with percentages of 77% and 74% for L.E and F.E respectively. Similarly, the local treatment of mice with 2mg/ear of L.E or F.E, inhibited ear inflammation induced by croton oil with 75% and 86% respectively. These values are better than those obtained with indomethacin (74%), used as reference. These findings showed that Urtica pilulifera extracts possess strong antioxidant and anti-inflammatory potential and represent an important source of bioactive compounds which support the traditional medicinal use of this plant. So, this plant might be exploited as a potential source of natural antioxidant and anti-inflammatory agents for pharmaceutical and food applications.

Keywords:

Antioxidant, Anti-inflammatory, Urtica pilulifera, Peroxidation, Edema.