

Valorization of Olive Harvest Waste: Anti-inflammatory and Analgesic Potential of Its Extract

Wafa Laaboudi

Higher Institute of Nursing Professions and Health Techniques, Fez, Morocco

Abstract

In Morocco, the olive harvest generates a lot of waste such as leaves and olive fruits. Valuation by the extraction of polyphenols from this waste could be a promising source.

Objective: The aim of this study was the in vivo evaluation of analgesic and anti-inflammatory effect of an olive fruits and leaves extract with high polyphenols content.

Methods: This olive tree extract was obtained from Moroccan olive fruits and leaves using an eco-extraction free of chemical solvents and toxic additives. Anti-inflammatory activity was evaluated using carrageenan and histamine-induced paw edema methods. Analgesic activity of the olive tree extract was estimated against a hot plate, acetic acid induced writhing and formalin tests.

Results: The extracts showed significant anti-inflammatory and analgesic activities with a dose-dependent manner. Anti-inflammatory activity of olive tree extract at 250 and 500 mg/kg doses was more important compared to the used standard drugs ($p < 0.05$), in both carrageenan and histamine-induced paw edema tests. In analgesic assays, results showed that 500 mg/kg dose of olive tree extract has a significant analgesic effect through both peripheral and central mechanisms.

Conclusion: Our findings suggest that olive tree extract is safe and has potential anti-inflammatory and analgesic activities, which promote this use as a food supplement against pain and inflammation related to inflammatory diseases.

Keywords

Olive leaves, Olive fruit, Polyphenols, Anti-inflammatory, and Analgesic, In vivo.