Journal of Dermatology and Dermatologic Diseases
ISSN: 2684-4281

The preventive effect of date palm (Phoenixdactylifera) seed and fruit hydroalcoholic extracts on Carrageenan induced inflammation in male rat's hind paw

Siavash azarbani
Ahvaz University Medical Science, Iran

Background and Objective:

The side effects of NSAIDS drugs, have caused increasing interest of scientists in herbal medicines as alternative treatment. In this study, the effect of anti inflammatory of seed and fruit of date palm hydroalcolic extracts, due to having antioxidants, was studied.

Materials and Methods: In this study, the extraxts of date palm seed and fruit were prepared by maceration method in 70% alcohol. Eighty male rats Wistar, divided into 10 groups of eight in each, 4 groups received different doses (100, 200, 400 and 600 mg/kg) of seed extract and 4 other groups different doses (100, 200, 400 and 600 mg/kg) of fruits extract of the palm, and the positive control aspirin (300mg/kg) and the negative control group saline (5ml/kg) via injection intraperitoneally. Half an hour later all animals received 100 µl of 1% carrageenan into the rats hind paw subcutaneous. The changes in rats paw edema was measured by plethysmometer every hour for five hours.

Results:

The effect of all of the doses of date palm seed extract on edema were less than aspirine ($P<0.05$). But there was no significant difference between the group that received 400 and 600 mg/kg date palm fruit extract when compared with aspirin group. The Dose 400 mg/kg of fruit extract showed the most anti-inflammatory effect and it was assignded as the best dose.

Conclusion:

It is likely that with further studies on different model of animals and also on human model the palm fruit extract could be used for pain treatment.

Recent Publications

1. Fantone JC, Ward P. Role of oxygen-derived free radicals and metabolites in leukocyte-dependent inflammatory reactions. The American journal of pathology 1982; 107(3): 395.

2. Vane J, Botting R. Inflammation and the mechanism of action of anti-inflammatory drugs. The FASEB journal 1987; 1(2): 89-96.

3. Miike S, Kita H. Human eosinophils are activated by cysteine proteases and release inflammatory mediators. Journal of Allergy and Clinical Immunology 2003;111(4): 704-13.

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5. Sharma JN, Mohsin SSJ. The role of chemical mediators in the pathogenesis of inflammation with emphasis on the kinin system. Experimental Pathology 1990; 38(2): 73-96.

Biography

Siavash Azarbani has completed his PHARM.D at the age of 25 years from AJUMS University School of Medicine.

siavash.farma@gmail.com