

ANTI-INFLAMMATORY EFFECT OF *CROCUS SATIVUS* EXTRACT EVALUATED IN MOUSE MODEL OF OSTEOARTHRITIS

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Aim: Osteoarthritis affects a high percentage of population over the age of 60, and the disease leads to a decline in quality of life and disability. The disease is age-related, it's detected at a late stage of progression and there is no adequate treatment. The aim of our research is to study and observe the effect of *Crocus sativus* extract and the possibility of its long-term administration on collagenase- induced osteoarthritis (CIOA) in mice model.

Material and Methods: Inbred BALB/C mouse line, collagenase A II and *Crocus sativus* extract have been used to develop sufficiently effective model to allow the stages of osteoarthritis monitoring, an optimal period for the treatment of experimental animals and a subsequent set of studies to track the pathogenesis and changes in cell populations by histology and flow cytometry. Sera were collected from the animals and changes in the knee joint were monitored during the disease stages. We studied also the characteristics and toxicity of *Crocus sativus* extract, and we decided to work with concentrations of 25, 50 and 100 mg/kg.

Results: We observed changes in the cell populations within splenocytes from experimental animals, the main difference were in T-, NK- cells and macrophages. This model allows to follow up the pathogenesis and multiple histological changes in the joints. In saffron treated animal group, some of disease symptoms are either reduced in scope or not detectable.

Conclusion: At this stage of the research the therapy with the extract showed positive effects on the control and restriction of the disease progression, and improved disease symptoms in the treated groups.