

SALVIA SCLAREA L. - POTENTIAL ANTI-INFLAMMATORY AGENT IN THE THERAPY OF PERIODONTITIS

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The aim of the study was to examine the effects of a dried extract (ethanol 80% V/V, DSR 1:10) of the above-ground parts of clary sage, *Salvia sclarea* L. at the full flowering stage, on a model of lipopolysaccharide (LPS) induced periodontitis in rats. Inflammation was induced by applying of 1 µL of LPS solution (10 µg/µL) twice during the experiment (ten days) in the interdental papilla between the first and second right maxillary molars. The extract, dissolved in water, was administered twice a day *per os*, by oral gavage, in a single dose of 200 mg/kg of body weight. In control groups (I and II), which were injected with saline and treated with water or the extract, morphological changes on hematoxylin-eosin preparations of periodontium were completely consistent with healthy tissue. Histopathological analysis of rats with induced periodontitis treated with water (group III) showed significant changes characterized by the dilation of blood vessels in the periodontium, an increase in the number of neutrophils and lymphocytes in the gingiva and the resorption of the alveolar bone. In rats from groups IV and V with induced periodontitis treated with the extract or preventively with the extract three days before the induction of inflammation, a significantly smaller number of inflammatory cells was observed and a larger number of fibroblasts, without signs of bone resorption. The clary sage extract showed significant anti-inflammatory activity with the potential to have a prominent place in the treatment of periodontal disease in humans.

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SALVIA SCLAREA L. – POTENCIJALNI ANTIINFLAMATORNI AGENSI U TERAPIJI PARODONTOPATIJE

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Cilj rada je ispitati efekte suvog ekstrakta (etanol 80% V/V, DSR 1:10) nadzemnih delova muskatne žalfije, *Salvia sclarea* L. u fazi punog cvetanja, na modelu lipopolisaharidom (LPS) indukovane parodontopatije pacova. Inflamacija je indukovana aplikovanjem 1 µL LPS rastvora (10 µg/µL) dva puta tokom eksperimenta (deset dana) u interdentalnu papilu između prvog i drugog desnog maksilarnog molara. Ekstrakt, rastvoren u vodi, primenjivan je dva puta dnevno *per os*, oralnom gavažom, u pojedinačnoj dozi od 200 mg/kg telesne težine. U kontrolnim grupama (I i II), kojima je injektovan fiziološki rastvor, a tretirani su vodom, odnosno ekstraktom, morfološke promene na hematoksilin-eozin preparatima parodontocijuma u potpunosti su odgovarale zdravom tkivu. Histopatološka analiza pacova sa indukovanom parodontopatijom koji su tretirani vodom (III grupa) pokazuje značajne promene koje se karakterišu proširenjem krvnih sudova u tkivu parodontocijuma, povećanjem broja neutrofila i limfocita u gingivi i resorpcijom alveolarne kosti. Kod pacova iz grupe IV i V, kojima je indukovana parodontopatija, a tretirani su ekstraktom ili preventivno ekstraktom tri dana pre izazivanja inflamacije, uočava se značajno manji broj inflamatornih ćelija i veći broj fibroblasta, bez znakova resorpcije kostiju. Ekstrakt muskatne žalfije je ispoljio značajnu antiinflamatornu aktivnost sa izgledima da može imati potencijalno mesto u tretmanu periodontalnih bolesti i kod ljudi.

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