

EVALUATION OF WALNUT OIL AS ANTIOXIDANT ON ALBINO RATS SALIVARY GLANDS (BIOCHEMICAL AND HISTOLOGICAL STUDY)

ABSTRACT

There is a demand to find alternative medicine to treat the salivary glands, as any injury to the salivary glands generates an abscess. The study aimed to evaluate the antioxidant impact of walnut oil on lowering the state of oxidative stress caused by hydrogen peroxide. Thirty rats were divided into three groups of ten rats each. G1, control received a daily dose of 0.2 g/kg of walnut oil. G2 was given 0.5% H₂O₂ drinking water every day. G3 was given 0.5% H₂O₂ drinking water every day. Walnut oil at a dose of 0.2 g/kg was given orally once a day. The treatment periods were 3, 7, and 14 days. The results revealed that the level of total antioxidant capacity TAC increased significantly with a drop in MDA in the walnut oil group over time, whereas the level of TAC decreased dramatically with an increase in MDA in the H₂O₂ group. This finding was reversed when walnut oil was added to the administration, especially after 14 days of treatment. The histopathological changes revealed the presence of an improving effect of walnut oil against the oxidizing effect of H₂O₂, as the pathological effects associated with the use of H₂O₂ with walnut oil were reduced when compared to the H₂O₂ group alone, which showed necrosis of the striated ducts, and degeneration of the convoluted tubules and mucous acinar cells. Vascularisation as well as increased fibrous tissue. We concluded that walnut oil has antioxidant properties that can counteract the oxidative effects of H₂O₂ in rat salivary glands