

***Assessment of Serum and Salivary
Oxidant/Antioxidants and Total
Antioxidant status of patients with
Recurrent Aphthous Stomatitis in
a sample of Basrah city***

A thesis

Submitted to the council of the College of Dentistry

University of Baghdad

In partial fulfillment of the requirements

For the Degree of Master of Science

In Oral Medicine

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B.D.S., M.Sc., Ph.D. (Oral Medicine)

2013 AD

1434 AH

Iraq 2013

Abstract

Background: Recurrent Aphthous Stomatitis (RAS) is the most common painful oral mucosal disease, affecting approximately 20% of the population. Recurrent Aphthous Stomatitis presents with a wide spectrum of severity ranging from a minor nuisance to complete debility. Many of factors thought to have been involved in it's etiology; that might have at the same time a direct or indirect impact upon oxidant/antioxidant system and trigger free radicals production.

Aims of the study: This study had been designed to determine the possible association of oxidant/antioxidant status and recurrent aphthous stomatitis.

Subjects, materials and methods: The study consisted of thirty patients with recurrent aphthous stomatitis and thirty healthy controls from which saliva and blood samples were collected. Malondialdehyde as an oxidative stress biomarker, catalase enzyme, uric acid as antioxidant biomarkers and total antioxidant status were measured in serum and saliva.

Results: Malondialdehyde in serum and saliva was significantly higher in recurrent aphthous stomatitis patients in comparison to healthy controls ($P < 0.05$). Serum and salivary catalase and uric acid were lower in recurrent aphthous stomatitis patients than in healthy controls, but not reach the significant level. No significant differences were found in total antioxidant status between recurrent aphthous stomatitis patients and control subjects ($P > 0.05$). The study showed a highly statistically significant positive linear correlation between serum and salivary uric acid ($r = 0.516$).

Conclusions: The changes in the oxidative stress in biological systems can be induced by the consumption of antioxidants and/or by an overload of oxidant species, so the antioxidant defense system become deficient that may be important in the inflammatory reactions observed in recurrent aphthous stomatitis. Saliva considered as a valid and convenient diagnostic biofluid for measurement of oxidant/antioxidants and total antioxidant activity in patients with recurrent aphthous stomatitis.