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Salivary sialic acid and antioxidant status(vitamin E, uric acid) in patients with oral lichen planus and healthy individuals

A thesis

In the College of Dentistry- University of Baghdad in partial fulfillment of the requirement for the degree of **Master in Oral Medicine**

By

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Abstract:

Background

Oral Lichen planus (OLP) is a T-cell mediated chronic inflammatory oral mucosal disease of unknown etiology.Recent studies have reported an increased oxidative stress and lipid peroxidation in patients with lichen planus.Oxidative stress in OLP release molecules consisting of granzymes that may result in local tissue damage in the effectors.

Antioxidants that can defend against oxidative stress in the body cells include, enzymes such as superoxide dismutase, catalase, and glutathione peroxidase enzyme, as well as non- enzymatic antioxidants, including melatonin, uric acid, vitamin A and vitamin E.

. Sialic acid is a diverse family of sugar units with a nine carbon backbone that are typically found attached to the outermost ends of these chains. In inflammatory skin diseases, the infiltration of skin by lymphocytes is mediated via recognition of sialic –acid containing molecules that act as a ligands for the selectins.

Aims of the study:

To study the level of salivary vitamin E and uric acid as an antioxidant agents in saliva of patients with OLP and compared with control group and to study salivary sialic acid as anti inflammatory in OLP patients and healthy individuals.

Methods:

Twenty five patients with OLP were enrolled in this study. Age, gender, occupation, smoking status (smokers or non-smokers), lesion types, location and size were recorded for each patient. Then salivary vitamin E was investigated using enzyme-linked immune sorbent assay (ELISA) kit.

Uric acid was analyzed using a proprietary enzymatic reaction mixture.. *Then salivary sialic acid was analyzed using thiobarbituric acid reagent(Warren method).*

Results:

The mean age of OLP patients was 48.3 years with a range of 30-60 years. According to the clinical presentation of the lesions, 14 patients were with reticular and 11 patients were with erosive form, with the buccal mucosa(88%) was the most commonly affected site followed by tongue(8%) then gingiva (4%). Salivary flow-rate was significantly lower in OLP patients than control (p=0.001)

Regarding salivary sialic acid, the present study showed a significant difference between control and OLP patients, OLP patients showed higher salivary sialic acid levels (85.34 mg/dl compared to control group(60.36 mg/dl) p value‹0.01.

Conclusions:

Salivary anti-oxidant markers represented by vitamin E and uric acid decreased in OLP patients due to increase oxidative stress (higher reactive oxygen species) that may have an important role in the pathogenesis of OLP.