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CASE REPORT

DENTURE STOMATITIS – A CASE REPORT

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ABSTRACT:

Denture stomatitis is an inflammatory reaction and the intensity of inflammation varies depending on the tissues involved as well as on the intensity of forces acting on the tissue. It may be associated with a number of bacterial and candida organisms as well as some predisposing factors.

Keywords: denture, stomatitis, candida albicans.

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INTRODUCTION:

Candida albicans (*C. albicans*) is an innocuous commensal of the microbial communities of the human oral cavity [1]. The role of Candida, and specifically *C. albicans*, in development of denture stomatitis is associated with pathogenic overgrowth of Candida on denture surfaces and the oral mucosa, and is widely accepted as a leading etiological factor [2].

It affects 24-60% of denture wearers, and it is usually found on the palatal mucosa beneath the fitting surface of the upper denture. Dental prostheses may produce a local environment of lowered pH and anaerobic conditions by de-

creasing the flow of oxygen and saliva to the underlying tissue; these conditions favour fungal overgrowth. Biofilms in denture plaque represent a protective reservoir for oral microbes [2].

Candida-associated denture stomatitis has been found in 60-65% of the subjects carriers of prosthesis with more diffused clinical manifestations [3]. *C. albicans* may be found in two major forms, yeast and hyphae form. The yeast form is usually associated with mucosal commensalism, although the conversion yeast-to-hyphae is commonly related to the invasion of superficial layers of the oral epithelium, leading to clinical infection [1].

Case Report:

A 19 year old male patient reported to Dental Out Patient Department with complaints of missing tooth with respect to upper front tooth region since 2 years. Patient gave history of wearing removable partial denture during night time. Medical history was non-contributory. Patient had a habit of smoking cigarette since last 2 years. Personal history revealed brushes twice daily with toothbrush and tooth paste. General physical examination and extra oral examination were non-contributory. On intraoral examination, reddish erythematous area seen on the palatal mucosa & rughae region (fig.1) and

was non tender on palpation, with missing maxillary right and left central incisors. Considering the history and examination of the patient we arrived at the provisional diagnosis of Denture Stomatitis type II.

Discontinuation of denture use and re-fabrication of the denture was advised to the patient and topical application of Candid mouth paint (Clotrimazole 1%) four times daily for 15days was given. Patient was instructed to remove the denture and put in water during night time and oral hygiene instructions given. Patient recalled after one month for review. On examination lesion was completely healed.



Fig 1: Erythematous area in denture bearing region in maxilla

DISCUSSION:

Denture-associated stomatitis (DAS) (Candida-associated denture stomatitis, denture-sore mouth) is a chronic infection of the oral mucosa caused solely by Candida species or in association with bacteria [2].

Pathogenesis:

The pathogenesis of the Candida-associated denture stomatitis is elaborate and multifactorial. It includes local and systemic

factors (Table 1) related to the host and to the Candida capability to adhere and proliferate in the host epithelial tissues. Candida-associated denture stomatitis is able to rise up when the conditions of the micro oral environment are

favourable for the growth and the adhesion of the yeast and also when systemic factors of the host cause depression of the mechanisms of defence [1]. As in our case it is type II denture stomatitis.

Table 1: Predisposing Factors [1]

Systemic factors	Local factors
Physiological (denture stomatitis)	Antimicrobials and topical or inhaled corticosteroids
Endocrine dysfunctions	Carbohydrate rich diet
Nutritional deficiencies	Tobacco and alcohol consumption
Neoplasia's	Hypo salivation
Immuno-suppression	Deficient oral hygiene
	Wearing dentures (especially through night)

Classification:

According to Newton's classification, three types of denture stomatitis are distinguished.

Type I - A localized simple inflammation or pin point hyperaemia

Type II - An erythematous or generalized simple type presenting a more diffuse erythema involving some part or the entire denture covered mucosa, as can be seen in the present case, which is type II.

Type III - A granular type inflammatory papillary hyperplasia commonly involving the central part of the hard palate and the alveolar ridges [3].

Complications:

The affected mucosa is atrophic providing less support for the dentures. Some patients complain of burning sensation or tingling sensation beneath the denture. In some patients oral candidiasis may also lead to

secondary complications such as oesophageal candidiasis [5].

Management and preventive measures:

Plaque control - Proper cleanliness of denture is important. The denture should be scrubbed with soap and water after every meal. The mucosa in contact with the denture also should be kept clean.

Denture should be properly finished and polished; ill-fitting dentures should be relined or newly made [3]. If the denture stomatitis is due to allergy to denture base material, a patch test should be done.

Newly fabricated dentures should be kept in water to remove the free monomer.

Denture stomatitis associated with Candida infection can be treated by local application of Nystatin, Amphotericin B, Miconazole or

Clotrimazole; Systemic therapy with Ketoconazole or Fluconazole [3].

To prevent the risk of relapse, the treatment should be continued for 4 weeks. When lozenges are used, the patient should be instructed to take out the dentures when the medicine is consumed. Meticulous oral and denture hygiene should be maintained. The denture should be kept in disinfectant solution during night. Old dentures fitting surface should be removed to 1-2 mms and relined for use during the treatment period.

CONCLUSION:

The causes of denture stomatitis are multifactorial. A proper history and oral examination will help to treat the patient successfully. A proper oral & denture hygiene are required to prevent and avoid denture stomatitis.

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