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Lesions Associated with Denture Wearing: An Overview

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ABSTRACT

Dental prosthesis have the main goal of rehabilitation of edentulous spaces present in oral cavity. Due to their prolonged use and poor oral hygiene it paves way for inflammatory and traumatic lesions and makes chewing inefficient thereby reduces the nutritional capacity of the patient. These lesions are more common among elderly and immune compromised patients, this article is a review about the oral lesions caused by the long term use of dentures both removable and complete dentures.

Keywords: Prosthesis, Chewing, Dentures, Rehabilitation

Introduction:

Oral mucosal lesions can be seen especially in edentulous patients who are mostly elderly and have comoroid diseases such as diabetes mellitus, which can impair their ability to withstand oral infections. Consequences of tooth loss and eventually edentulism include resorption of alveolar bone, changes in talking, esthetics, chewing and digestion[1]. Additionally, oral mucosal ulcers brought on by the use of removable prosthetics are more common in edentulous patients. The most commonly seen denture related oral mucosal lesions are stomatitis, hyperplasia, angular chelitis and traumatic ulcers. This was also seen more frequently in patients who wore complete dentures as opposed to removable partial dentures[1]. These lesions may represent acute or chronic reaction to constituents of the denture base material, or a mechanical denture injury.Lesions include denture stomatitis, angular chelitis, traumatic ulcers, denture irritation hyperplasia, flabby ridges, and oral carcinomas[2].

Complaints can either be related to functional efficiency, in terms of esthetics, phonetics, mastication and swallowing or it can be due to environmental incompatibility leading mainly to an array of mucosal lesions or conditions[3].

Common soft tissue lesions:

Denture stomatitis:

Denture stomatitis is also known as atrophic candidiasis, commonly seen in patients with maladjusted denture or denture which is used for extended period. Clinically it may appear as a mucosal erythema that may lead to development of inflammatory nodules where the candida albicans can lodge in[4]. Although symptoms are uncommon the clinical presentation of erythema and edema in the part of palatal mucosa covered by denture base is diagnostic[3].

Traumatic ulcer:

It is one of the most frequent oral cavity injuries which may have various etiologies, can be caused by pressure from the ill fitting denture possibly over-extension[4]. Traumatic ulcers are usually seen in buccal mucosa, lateral and ventral surfaces of tongue and alveolar mucosa overlying the osseous structures. Most traumatic ulcers resolve without the need of antibiotic treatment, ulcerations without etiology or those that persists despite therapy may need to be examined microscopically to exclude malignancy and other causes[3].

Epulis Fissuratum:

Epulis fissuratum is a common clinical condition where mucosal hyperplasia is seen only along the mandibular anterior denture flange. Frequently this is a consequence of resorption of alveolar ridge so the denture moves further into the vestibular mucosa creating an inflammatory hyperplasia that proliferates over the flange[3]. These ill-fitting denture flanges act as a stimulus to tissues for oral frictional keratosis, other factors involved in this process are tissue chewing (most probably buccal mucosa or lips), fractured or malposedteeth , poorly adapted dental restorations, orthodontic appliances and constant mastication on edentulous alveolar ridges and these lesions are typically non scrappable[3].

Candidiasis:

Candida albicans is the most common micro organism found in candidiasis etiology in the mucosa[3]. Their primary localization is on the dorsal side of the tongue and on the oral mucosa, whereas the biofilm on the teeth's surface colonisessecondary.Candida albicans has the affinity to adhere to the acrylic from which denture is made and the acrylic resins possesses certain characteristics, such as hydrophobicity, which accelerates adhesion as a major step associated with the formation of biofilm[5].The mycological examination before treatment, especially in patients using acrylic denture, appears to be necessary[6].

Angular Chelitis:

It is most commonly seen in long term denture wearers due to loss of occlusal height in old age or decreased inter maxillary space or decreaesd vertical dimensions [7]. The oral signs of angular chelitis, which are common in older people who are edentulous and wearing worn-out dentures, are brought on by the colonisation of a variety of candida species. This lesion can be managed by switching to a new denture on a regular basis to alter the vertical dimension of the face and improve the angular chelitis lesions. It is anticipated that excessive jaw closure will result in occlusive folds at the mouth's angles, where saliva tends to gather and the skin subsequently develops[7]. Denture wearers with chelitis often had atopic constitution or cutaneous diseases [8].

Inflammatory papillary hyperplasia:

Inflammatory hyperplasia is a benign lesion of the palatal mucosa. It is usually found in denture wearers but also has been reported in patients without a history of use of a maxillary prosthesis use, characterized by the growth of one or more nodular lesions, measuring about 2mm or less[9]. The lesion may be associated with discomfort and pain when ulceration occurs. It is more commonly seen in females. Hyperplasia can be treated conservatively or surgically depending on the size of the lesion[10].

Conclusion:

Both removable and complete dentures are essential for patient's oral rehabilitation. As it is more common in elderly people, instructions about the denture maintenance and proper oral hygiene instructions should be given and patient advised for periodic monitoring and assessment.

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