DENTURE PLAQUE
Oslen first used the term denture plaque to describe the dense microbial layer on the fitting surface of a denture. Electron microscopic studies of denture plaque have shown that their structure is similar to dental plaque. Denture associated stomatitis is the condition more commonly associated with such denture wearers. No two dentures have the same spectra of microorganisms. Removal of denture plaque helps in the healing of denture associated lesions.

Key words: Denture plaque, denture stomatitis, oral microbial flora, denture wearer.

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related stomatitis group and control group. The surface of the denture plaque was composed predominantly of coccoid and rod-shaped bacteria with only some yeast cells.\textsuperscript{9}

**CANDIDA IN DENTURE PLAQUE**

Candida yeasts can be present in oral cavity without causing any pathology. It is found in about 25-50% of individuals with natural teeth. But their number is an important factor in determining the pathogenicity.\textsuperscript{10} In superficial candidiasis, the mycelial form of C. albicans is more virulent because of hyphal invasion of the epithelium. Hyphae are found in increasing numbers in denture stomatitis patients. But intraepithelial invasion of hyphae is not seen in denture stomatitis. Once the Candida adheres to the mucosal surface, the cell wall components are released and they penetrate the epithelium to start the cycle of inflammation.\textsuperscript{11}

All of the Koch’s postulates have been found to be fulfilled by Candida in denture stomatitis.\textsuperscript{5} Wearing of dentures produces a microenvironment with low oxygen and low pH which favours the growth of candida. This may be due to adherence of Candida to acrylic and decreased saliva flow under the surfaces of the denture. Adhesion of candida to epithelial cell walls is promoted by certain fungal cell wall components such as mannose, C3d receptors, manno-protein, and saccharins.\textsuperscript{12}

Candida albicans is found to be more commonly associated with denture stomatitis. More than a single species of Candida may inhabit the mucosal habitats. Multispecies colonisation is more encountered in denture stomatitis as the denture provides an ideal ecosystem for their growth. Other species of candida documented include C.tropicalis, C.krusei, C.glabrata and C.guillermondii.\textsuperscript{13,14,15}

**IMMUNE-COMPROMISED PATIENTS WITH DENTURES**

Candida infections are more commonly encountered in immune-compromised patients such as those with diabetes, malignancy or HIV. Non-albican candida species are more commonly associated with these conditions when compared to healthy individuals. A new species of candida, C.dubliniensis having similar phenotypic characteristic to that of C.albicans, has been found associated with HIV positive patients.\textsuperscript{2}

Denture adhesives are usually used by denture wearers to aid in retention. They close the space between the base of the denture and the oral mucosa and increase the surface tension of the fluid film between the denture and the supporting tissue. They may influence the oral flora since they support the growth of some organisms but not the others, resulting in an imbalance.\textsuperscript{17}

**SANITIZATION OF DENTURES**

Dentures should be clean not only from debris and stains, but also from micro-organisms. Mechanical denture cleaning aids include brush, abrasive powders and pastes; and ultrasonic agitation. Chemical cleaners are categorised into alkaline peroxides, alkaline hypochlorites, dilute organic and inorganic acids, disinfectants, and enzymes. Peroxide cleansers are most commonly used in combination with other agents like detergents and sodium perborate. Hypochlorites are useful as denture cleaners since they are bactericidal and fungicidal, removing the stains and mucin. Dilute acids effectively remove calculus and stain on dentures. Disinfectants include chlorhexidine gluconate, salicylate solution, ethanol, isopropyl alcohol, formalin, and acetic acid. These substances are not suitable for daily use because of their bad odour, taste and their bleaching and crazing effects. A combination of proteinase and mutanase can reduce significant amount of denture plaque and also prevent the formation of new plaque.\textsuperscript{18,19}

**CONCLUSION**

Denture stomatitis is a condition, commonly associated with colonisation of bacteria and fungi on the fitting surface of denture with frequent involvement of Candida as well as other aerobic and anaerobic bacteria. Denture sanitization is an important modality in the treatment of such denture related lesions. Tissue conditioners and denture adhesive materials that are frequently used by denture wearers also provide a favourable environment for the growth of organisms. The factors that modulate the initial attachment and colonisation of organisms over the fitting surfaces of dentures need to be thoroughly investigated.

**REFERENCES**


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