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Case Report

Concomitant Association of OSMF with Leukoplakia: A Case Report

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ABSTRACT:
Cancers of the oral cavity are more likely to occur in patients with oral potentially malignant disorders (OPMD). Because it has the potential to be fatal, oral cancer is one of the most serious oral diseases. According to Globocan's 2020 report, the majority of the estimated 0.37 million new cases of oral cancer are expected to occur in Asia. Oral lesions that possess dysplastic features are classified as oral potentially malignant disorders. These disorders include oral leukoplakia (OL), erythroplakia, proliferative verrucousleukoplakia, and oral submucous fibrosis (OSMF). It is presumed that these conditions carry a significant risk of malignancy. To stop OPMDs from malignantly developing into oral cancer, early detection, prevention, and treatment are essential.

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INTRODUCTION

Oral leukoplakia (OL) is a potentially malignant disorder (PMD) of the oral mucosa. It has been defined as "a predominantly white lesion of the oral mucosa that cannot be characterized as any other definable lesion." It is also defined as "A white plaque of questionable risk having excluded (other) known diseases or disorders that carry no increased risk for cancer," which is well-known PMD of the oral mucosa.[1] It was noted that 15.8–48.0% of oral squamous cell carcinoma (OSCC) patients were associated with OL in few studies.Oralsubmucous fibrosis (OSMF) is a chronic condition characterised by progressive stiffening of the oral mucosa with the resultant inability to open the mouth. This condition was first described by Schwartz in 1952. It is a collagen related disorder predominantly associated with areca nut / tobacco chewing and results in progressive hyalinization of the submucosa. Definition of OSMF is a fibrotic condition of oral mucosa characterized by epithelial immune cell infiltration followed by a fibro-elastic change in the lamina propria and submucosa leading to stiffness of the oral mucosa.[2]The clinical definition describes it as "a debilitating, progressive, irreversible collagen metabolic disorder induced by chronic chewing of areca nut and its commercial preparations; affecting the oral mucosa and occasionally the pharynx and oesophagus; leading to mucosal stiffness and functional morbidity; and has a potential risk of malignant transformation".[3]Oralsubmucous fibrosis predominantly occurs in India and Southeast Asia. Recent studies reveal a steep increase in prevalence of OSMF in India from 0.03% to 6.42%. The definitive cause of leukoplakia is unclear. However, the most common risk factors involve the use of tobacco either in smoke (mainly) or smokeless form together with chronic alcohol consumption.[4] More than 90% of OSMF patients were found to be betel-quid chewers.[5]In India, areca nuts are chewed directly or are available in various commercial forms like supari, mawa, paan masala, and betel quid with or without tobacco.[6] The present case report describes the

concomitant association of Oral Leukoplakia and OSMF.

CASE REPORT

A 49-year-old male patient (Figure 1) reported to the department of oral medicine and radiology with the chief complaint of burning sensation of his cheeks and tongue for 3 months. Patient gave a history of burning sensation on having spicy food. (Visual Analogue Score of 7).History of gutkha chewing since 10years with a frequency of 3-4 packets per day and history of smoking cigarettes since 15years with a frequency of 5-7 per day. On extraoral examination, no significant abnormalities were detected. Inspectory findings revealed a well-defined plaque seen on bilateral buccal mucosa (Figure2) measuring about 2×3.5 cm, extending from commissural area bilaterally until the retromolartrigoneanteroposteriorly, Superior-inferiorly at the level of occlusion. Lesion presents with underlying erythematous mucosa on left buccal mucosa and gives a 'crack mud' appearance. A well-defined plaque type patch seen on the right lateral surface on the tongue (Figure 3) measuring about 2.5×1 cm extending anteroposteriorly from the tip of the tongue to 1 cm away from posterior aspect of the tongue, Superior-inferiorly involving right lateral surface of the tongue. On palpation, the lesion was non-Scrappable non-tender, with no signs of indurations. One vertical band is palpable involving right buccal mucosa at the region of 46 & 47 extending from upper vestibule to lower vestibule.

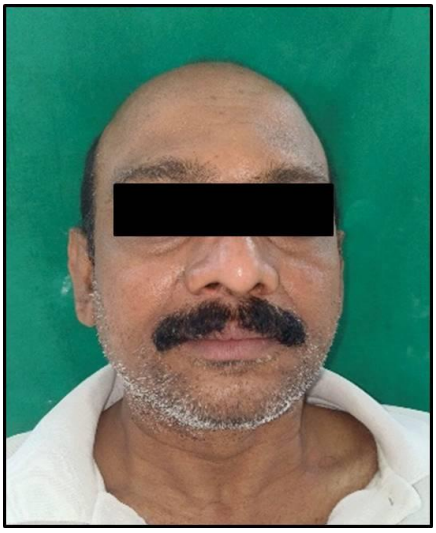


Figure 1: Showing Patient Profile

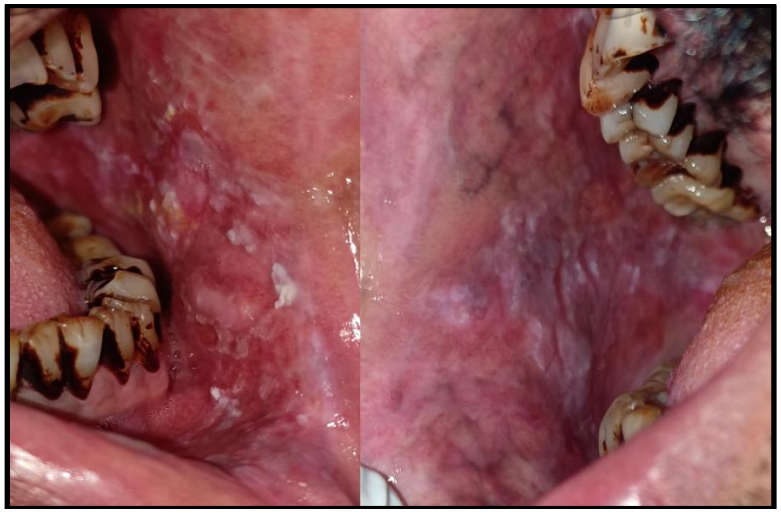


Figure 2: Showing Left and Right Buccal Mucosa

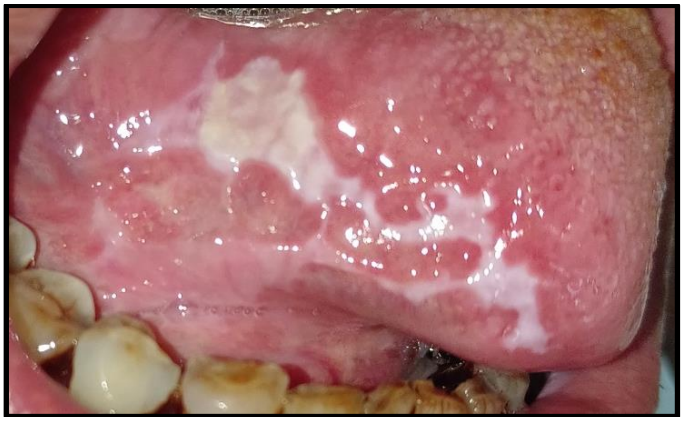
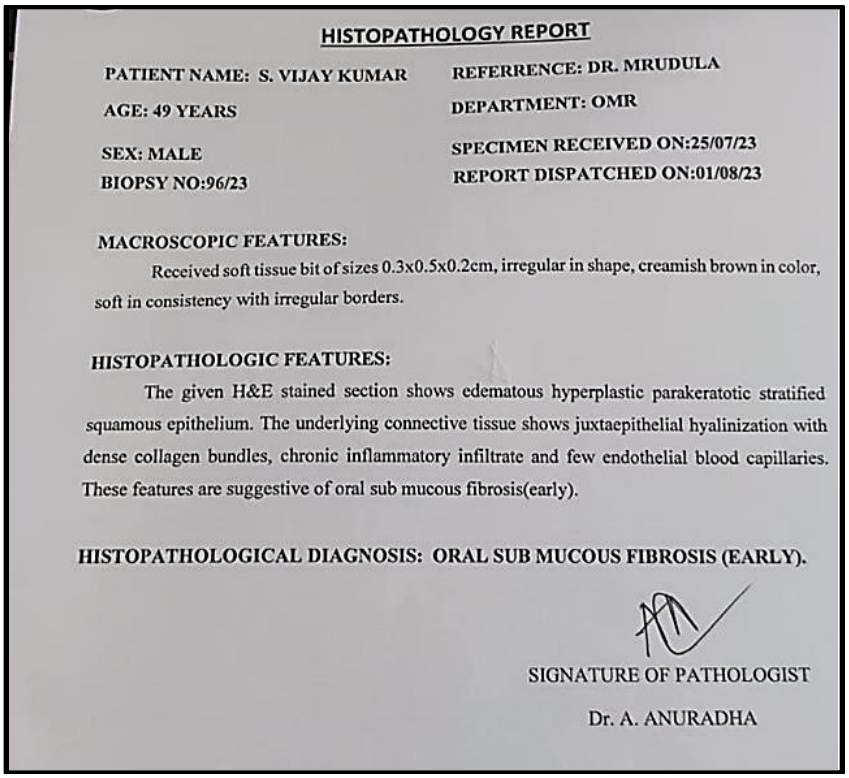


Figure 3: Showing Right Lateral Surface of the Tongue

Based on clinical findings a provisional diagnosis of homogenous leukoplakia and Grade I OSMF was given. A biopsy was done involving the rightbuccal mucosa. Histopathologically (Figure4), it showed edematous hyperplastic parakeratotic stratified squamous epithelium and the connective tissue shows juxtaepithelial hyalinization with dense collagen bundles. These are the features of Early Oral Submucous Fibrosis. In our case, patient has been instructed to take topical tretinoin 0.1% for one month and lycopene capsules 8mg once daily for one month. Routine follow-ups are advised.



HISTOPATHOLOGY REPORT

PATIENT NAME: S. VIJAY KUMAR
REFERRENCE: DR. MRUDULA

AGE: 49 YEARS
DEPARTMENT: OMR

SEX: MALE
SPECIMEN RECEIVED ON:25/07/23

BIOPSY NO:96/23
REPORT DISPATCHED ON:01/08/23

MACROSCOPIC FEATURES:

Received soft tissue bit of sizes 0.3x0.5x0.2cm, irregular in shape, creamish brown in color, soft in consistency with irregular borders.

HISTOPATHOLOGIC FEATURES:

The given H&E stained section shows edematous hyperplastic parakeratotic stratified squamous epithelium. The underlying connective tissue shows juxtaepithelial hyalinization with dense collagen bundles, chronic inflammatory infiltrate and few endothelial blood capillaries. These features are suggestive of oral sub mucous fibrosis(early).

HISTOPATHOLOGICAL DIAGNOSIS: ORAL SUB MUCOUS FIBROSIS (EARLY).

SIGNATURE OF PATHOLOGIST

Dr. A. ANURADHA

Figure 4: Showing Histopathology Report

DISCUSSION

OPMD have a statistically higher risk of developing into malignancy. Lesion size greater than 200 mm^2, non-homogeneous texture, red or speckled color, and location on the tongue or floor of the mouth are parameters and clinical features associated with an increased risk of malignant progression of OPMD. It is now evident that dysplasia on the contralateral anatomic site or molecular aberrations in other oral mucosal sites suggestive of a pathway to malignant transformation may occur in even the clinically "normal" appearing mucosa in a patient harboring a precancerous lesion, and that cancer may subsequently arise in apparently normal tissue. These lesions have a multifactorial etiology.The most prevalent OPMDs are OL and OSMF. The gold standard for diagnosis is a biopsy followed by a histopathologic examination, even though these clinical criteria might be helpful in assessing risk. A prognostic factor is the correlation between OPMDs and variables linked to higher rates of malignant transformation. Risk varies based on factors related to

the patient or lesion. Clinical, histological, and demographic factors all influence prognosis.Oral lesions like oral submucous fibrosis (OSMF), leukoplakia, and oral lichen planus have been positively correlated with cigarette smoking, alcohol consumption, and betal/tobacco chewing habits. These lesions have also been linked to the possibility of malignant transformation.[7]It was observed that among the children who had received an OSMF diagnosis in the past, there was a high incidence of OL and oral cancer.The study conducted by Chaurasia et al. (2015) showed that the incidence of leukoplakia and erythroplakia in patients with OSMF is estimated to be around 11%.[8] Another study published in the journal Indian Journal of Cancer found that the prevalence of leukoplakia in OSMF patients was 89%, the prevalence of candidiasis was 13%, and the prevalence of erythroplakia was 3%. The most common reason people with OSMF develop multiple coexisting OPMDs is because of their habit.[10]Leukoplakia and OSMF are related due to their common aetiology of chronic irritation of the oral mucosa. Smoking, using tobacco products, and consuming large amounts of alcohol can all lead to leukoplakia, whereas the main cause of OSMF is eating areca nuts, which are a mixture of betel nut, lime, and alcohol. These two behaviors have the potential to irritate the oral mucosa, which raises the risk of leukoplakia and OSMF.Individuals who are diagnosed with OPMDs are more likely to develop oral cavity cancer in the future. It is difficult to predict malignant transformation. Many factors, including patient demographics and lifestyle choices, the type of OPMD, size, shape, and location of anatomical features, as well as the degree and presence of dysplasia on histopathology, all influence malignant transformation. It is important to remind patients to keep an eye on their lesions and to report any changes in their appearance or symptoms. Regular follow-ups are necessary.

CONCLUSION

It is essential to diagnose OPMD as soon as possible. Diagnosing any related lesion is essential as well. It is not recommended to rely solely on clinical observation and diagnosis of the lesion without biopsy due to the high probability of malignancy. To make a definitive diagnosis and to properly plan a timely course of treatment, a biopsy must be carried out.

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