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Squamous Cell Carcinoma Of Left Mandibular Alveolus And Buccal Mucosa – A Clinical Case Report

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ABSTRACT:

OSCC represents the predominant form of oral cancer, constituting more than 90% of cases. It stands as the eighth leading cause of cancer-related deaths in the world. The most common site of OSCC is said to be the lips, gingiva, palate and dorsum of the tongue. The potential risk factors of OSCC includes usage of any kind of tobacco, including cigarettes, cigars, pipes, chewing tobacco, betel quid and snuff, heavy alcohol usage and sexually transmitted virus called human papillomavirus (HPV) .This report describes a case of oral squamous cell carcinoma of left mandibular alveolus and buccal mucosa of a 47 year old male patient.

KEYWORDS: Squamous cell, neoplasm, human papilloma virus, tobacco, betel quid

INTRODUCTION:-

Any uncontrolled growth of cells that invade and cause impairment to the adjacent tissue is said to be cancer. One of the commonest forms of cancer is head and neck cancer .[1] Oral cancers typically begin with the appearance of small, unusual, and unexplained growths or sores in various parts of the mouth, including the lips, cheeks, tongue, hard and soft palate, and extending to the base of the mouth and the oropharynx.
More than 90% of cancer cases in head and neck region are OSCCs.Oral cancer indeed poses a significant health concern in India due to its prevalence and impact on the community. Early detection and awareness campaigns are crucial in addressing this issue effectively.
Although there are numerous etiological causes for OSCC, which develops in the oropharynx and oral cavity, smoking and alcohol consumption continue to be the most prevalent risk factors, particularly in the West. The primary etiological variables linked to oral squamous cell carcinoma (OSCC) in South Asian nations are the use of smokeless tobacco and areca nut products.[2] Pharynx and oral cavity cancers can potentially arise as a result of gene alterations; however, no particular gene has been linked to OSCCs.
Usually, normal epithelial linings or possibly malignant lesions cause OSCC. Indicators of the preclinical stage of oral cancer include inflammatory oral submucosa, fibrosis, erythroplakia, leukoplakia, candidal leukoplakia, congenital dyskeratosis, and lichen planus.The tonsils and tongue are the most frequently impacted areas in oral and oropharyngeal OSCC instances, which mostly affect male patients.In this case report we discuss about a 47 year old male patient with well defined squamous cell carcinoma of left mandibular alveolus and buccal mucosa.

CASE REPORT:

A 47 year old male patient came to our department with the chief complaint of pain in his lower left back tooth region for past 1 month. Patient had history of sudden, intermittent, pricking pain which aggravated on mastication and relieved on

medication. Patient also gave history of ulcer which was sudden in onset and gradually increasing in size for past 2 month. Patient has consulted in private dental clinic for above mentioned complaints where incisional biopsy was taken which reveals carcinoma of oral mucosa. Patient then reported to our hospital for further management

Patient has a known history of diabetes mellitus for past 13 years and was under medication for past 7 years. Patient gave history of smoking and chewing tobacco and alcohol consumption for past 7 years.

General physical examination was insignificant, and his vital signs were under normal limits. On extra oral examination, no gross facial symmetry was evident, no palpable lyphnodes were evident, TMJ movements were normal and no abnormalities were detected, no extra oral fistulas were present. On intraoral examination, an ulceroproliferative lesion was evident on buccal and lingual mucosa of left back tooth region. The erythematous and keratinized lesion was about 3x3 cm in size extending superiorly from alveolar process of mandible, inferiorly from floor of the mouth, anteriorly 4cm from commisure of lip and posteriorly upto retro molar region, irregular in shape, surrounding skin was edematous. On palpation all inspectory findings are confirmed, base was not fixed, no tenderness and palpation was present, fibrotic band was evident bilaterally on palpation of buccal mucosa.

Excisional biopsy was done and sent for histopathological examination. On microscopic examination, the sections show multiple fragments of stratified squamous epithelium with an infiltrating malignant neoplasm arranged in sheets, nests and islands. The neoplastic cells are large pleomorphic having abundant eosinophilic cytoplasm with pleomorphic vesicular nuclei and prominent nucleoli. Atypical mitotic figures 3-4/10HPF are noted. Amidst the tumor cells, individual cell keratinisation and keratin pearl formation are noted at many places. The surrounding stroma shows desmoplasia with dense lymphoplasmacytic infiltrate.

These histopathological features lead to the confirmation of WELL DIFFERENTIATED SQUAMOUS CELL CARCINOMA of left mandibular alveolus and buccal mucosa.

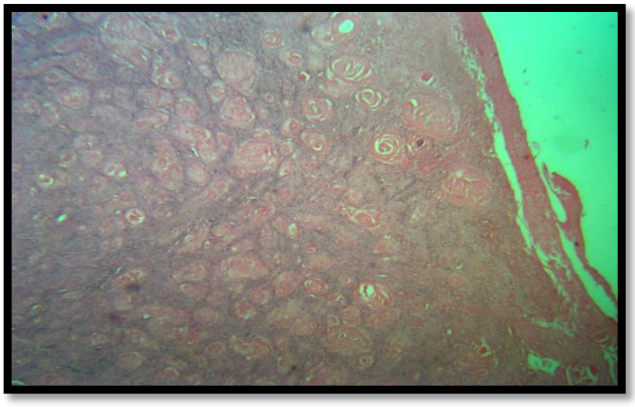

Fig.1a: H&E section shows stratified squamous epithelial cells and numerous keratin pearls scattered in the connective stroma scattered in the connective stroma

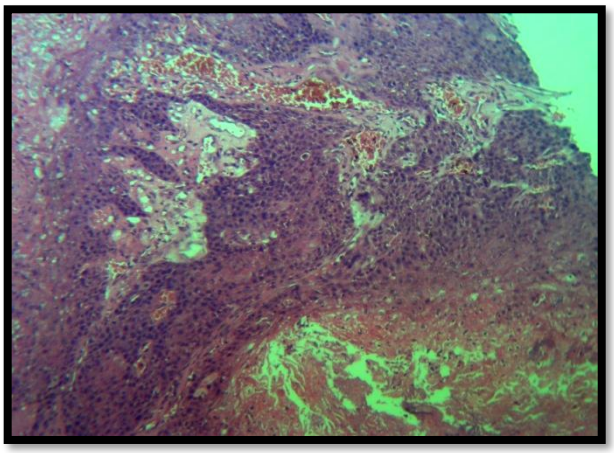

Fig.1b H&E section shows infiltrating tumour cells and some areas of haemorrhage(X10 magnification)

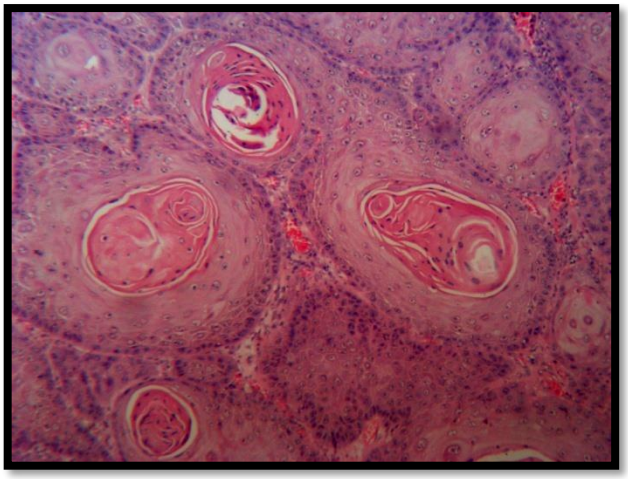

Fig.1c H&E section shows Keratin pearls surrounded by tumor cells and some blood vessels (X40 magnification)

DISCUSSION:

Oral sqamous cell carcinoma (OSCC) is indeed a common type of head and neck malignancy that originates in the oral mucosa[3-5]. Oral squamous cell carcinoma (OSCC) can lead to significant disfigurement and functional impairments, affecting essential functions like swallowing, speech, and taste. These impacts can profoundly affect the quality of life for patients [6-7].

OSCC is identified clinically by a red and white or red lesion with a slightly uneven surface and distinct borders[8, 9]. In the early stages, these lesions are generally painless but can progress to cause discomfort, displaying features like ulceration, nodularity, and tissue attachment[10, 11]. Ulceration, a common symptom of OSCC, presents with an irregular floor and margins, which is firm upon palpation[11, 12]. The posterior lateral border of the tongue has the highest incidence, followed by the mouth floor, soft palate, gingiva, buccal mucosa, and hard palate[13, 14]. OSCC primarily spreads to ipsilateral neck lymph nodes but can also invade contra lateral or bilateral nodes. Metastases to the lungs, bones, and liver are typical.[15]

OSCC is characterized by both histopathological and clinical features, and its development involves a progression from initial cell injury to malignant neoplasm formation. Generally, lesional cells may breach the perineurium that encases nerve bundles (perineural invasion) or may invade the lumina of veins or lymphatics (vascular invasion). Presence of strong inflammatory or immune cell response to invading epithelium is seen. Necrosis may be present. OSCC may induce dense fibrosis (desmoplasia or scirrhous change) and the formation of new blood vessels (angiogenesis). Varying degrees of cellular and nuclear pleomorphism is seen.
Presence of keratin pearls (a round focus of concentrically layered, keratinized cells)are observed. Individual cells also may undergo keratinization This progression may be associated with precancerous lesions like leukoplakia and erythroplakia, although not all potentially malignant lesions lead to cancer development.[17.]

On comparing with the general histological features of OSCC, in the current case report the tumor revealed large, pleomorphic cells with abundant eosinophilic cytoplasm, atypical mitotic figures, and keratin pearl formation. Surrounding stroma shows desmoplasia and dense lymphoplasmacytic infiltrate. These histopathological examination confirms the presence of well-defined squamous cell carcinoma involving the left mandibular alveolus and buccal mucosa.

CONCLUSION:

Oral squamous cell carcinoma (OSCC) continues to be a significant contributor to illness and death among individuals with head and neck cancers. Factors such as tobacco use, smoking, alcohol consumption either alone or in conjunction with chewing tobacco, and betel quid are recognized carcinogens that contribute to the elevated incidence of OSCC [19]. It also develops from dysplastic oral squamous epithelium. Most common and conventional treatment of OSCC includes surgical excision of lesion. Recent treatment options for OSCC include chemotherapy combined with radiation therapy, EGFR inhibitors, COX-2 inhibitors, and photodynamic therapy.[19]

REFERENCE:

1. Bugshan A, Farooq I. Oral squamous cell carcinoma: metastasis, potentially associated malignant disorders, etiology and recent advancements in diagnosis. F1000Res. 2020 Apr 2;9:229. doi: 10.12688/ f1000research.22941.1. PMID: 32399208; PMCID: PMC7194458.
2. Borse V, Konwar AN, Buragohain P. Oral cancer diagnosis and perspectives in India. Sens Int. 2020; 1:100046. doi: 10.1016/j.sintl.2020.100046. Epub 2020 Sep 24. PMID: 34766046; PMCID: PMC7515567.
3. 3.Vigneswaran, N. & Williams, M. D. Epidemiologic trends in head and neck cancer and aids in diagnosis. Oral Maxillofac. Surg. Clin. 26, 123–141 (2014).
4. Ng, J. H., Iyer, N. G., Tan, M.-H. & Edgren, G. Changing epidemiology of oral squamous cell carcinoma of the tongue: a global study. Head Neck 39, 297–304 (2017).
5. Mody, M. D., Rocco, J. W., Yom, S. S., Haddad, R. I. & Saba, N. F. Head and neck cancer. Lancet 398, 2289–2299 (2021).
6. Linsen, S. S., Gellrich, N.-C. & Krüskemper, G. Age-and localization-dependent Functional and psychosocial impairments and health related quality of life six months after OSCC therapy. Oral Oncol. 81, 61–68 (2018).
7. Meier, J. K. et al. Health-related quality of life: a retrospective study on local vs. micro vascular reconstruction in patients with oral cancer. BMC Oral Health 19, 1–8 (2019).
8. Maymone, M. B. C. et al. Premalignant and malignant oral mucosal lesions: Clinical and pathological findings. J. Am. Acad. Dermatol. 81, 59–71 (2019).
9. Odell, E., Kujan, O., Warnakulasuriya, S. & Sloan, P. Oral epithelial dysplasia: recognition, grading and clinical significance. Oral Dis. 27, 1947–1976 (2021).
10. Brandizzi, D., Gandolfo, M., Velazco, M. L., Cabrini, R. L. & Lanfranchi, H. Clinical features and evolution of oral cancer: a study of 274 cases in Buenos Aires,Argentina. Med. Oral Patol. Oral Cir. Bucal. 13, E544-8 (2008).
11. Bagan, J., Sarrion, G. & Jimenez, Y. Oral cancer: clinical features. Oral Oncol. 46,414–417 (2010).
12. Scully, C. & Bagan, J. V. Oral squamous cell carcinoma: overview of current understanding of aetiopathogenesis and clinical implications. Oral Dis. 15,388–399 (2009).
13. Harada, H. et al. Characteristics of oral squamous cell carcinoma focusing on cases unaffected by smoking and drinking: a multicenter retrospective study.Head Neck 45, 1812–1822 (2023).
14. Omura, K. Current status of oral cancer treatment strategies: surgical treatments for oral squamous cell carcinoma. Int. J. Clin. Oncol. 19, 423–430 (2014).
15. Jerjes, W. et al. Clinicopathological parameters, recurrence, locoregional and distant metastasis in 115 T1-T2 oral squamous cell carcinoma patients. Head Neck Oncol. 2, 1–21 (2010).
16. Neville BW, Day TA. Oral cancer and precancerous lesions. CA Cancer J Clin. 2002;52:195–215. [PubMed] [Google Scholar]
17. Gharat SA, Momin M, Bhavsar C. Oral Squamous Cell Carcinoma: Current Treatment Strategies and Nanotechnology-Based Approaches for Prevention and Therapy. Crit Rev Ther Drug Carrier Syst. 2016;33(4):363-400. doi: 10.1615/CritRevTherDrugCarrierSyst.2016016272. PMID: 27910740.