

Oral Squamous Cell Carcinoma Of Right Buccal Mucosa – A Case Report

Ilayanila.C^{1*}, Dr. Saai Mahima.J², Dr. Ansu Achu Markose³, Dr. Tamilselvi.R⁴, Dr. Pradeep Sankar.S⁵, Dr. Sathishkumar M⁶.

^{1*}Postgraduate Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

²Cri Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

³Cri Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

⁴Cri Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

⁵Senior Lecturer Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

⁶Head Of The Department Oral And Maxillofacial Pathology And Oral microbiology Karpaga Vinayaga Institute Of Dental Sciences

*Corresponding Author: Dr. Ilayanila.C,

*Karpaga Vinayaga Institute Of Dental Sciences, Chengalpet , Tamilnadu-603308.

Abstract:

Oral squamous cell carcinoma (OSCC) is the most common epithelial malignant neoplasm affecting the oral cavity; early detection is an important criterion for achieving high cure rate. The control of oral squamous cell carcinoma (SCC) is difficult even after treatment because it has a tendency to multiple primary carcinomas. The purpose of this report is to describe the clinicopathological characteristics of a unique case of unilateral buccal mucosal SCC in a 45 -year-old male and to determine whether any associated risk factors are present.

Keywords - Unilateral, Squamous cell carcinoma, Buccal mucosa, Oral cancer.

INTRODUCTION:

Oral squamous cell carcinoma (OSCC) is one of the most aggressive malignancies worldwide and accounts for more than 90% of all oral cancers. It is ranked as the sixth leading cause of cancer mortality worldwide and the second leading cause of cancer mortality in India. The most common sites of OSCC are the lateral ventral surface of the tongue, the floor of the mouth and buccal mucosa [2]. These tumours commonly arise in the edentulous areas, although they may also develop at dentate areas. It is generally agreed that carcinomas of the mandibular gingiva are more common than those of the maxillary gingiva and 60% of those are located posterior to the premolars [2]. Oral Malignancy in patients without tobacco or alcohol abuse have the next occurrence only in the oral cavity. The gingiva is the most common site of occurrence [1]. Here we are going to describe about the case report on oral squamous cell carcinoma of right buccal mucosa in 45 years old man and discuss about the associated risk factor.

THE CASE REPORT:

The 45-year-old male patient reported to our private dental college with a chief complaint of painful ulcer in his right side of the face and restricted mouth opening for past 15 days. The patients were a known case of tobacco chewing for past 25 years and stopped one month before. Extra -oral examination revealed the presence of a diffuse swelling of size 5X4cm evident over right side of the face.

On intra- oral examination, grade II mobility in 31,32,41,42 and dental caries in 16,36,46 were present. In clinical examination of right buccal mucosa, a tender mass measuring 5x4cm with a verruciform surface was seen in the left malar region. The lesion is soft to firm in consistency. It is extending anteriorly approximately 1 cm posterior to right commissure of the lip, posteriorly up to retromolar trigone and inferiorly up to lower buccal vestibule. There was no evidence of neck lymphadenopathy. An incisional biopsy was performed under local anaesthesia and medication prescribed and recalled after a week. Patient was advised to take CT neck.



Fig 1: FRONTAL VIEW



Fig 2: A tender mass with a verruciform surface was present on the right buccal mucosa.

Incisional biopsy was performed

(A)Posterior region; (B) Anterior region.

Macroscopic features reveals (A) Received a single grey white to grey brown soft tissue fragment measuring 0.5cm in diameter. All embedded. (B) Received a single grey white to grey brown soft tissue fragment measuring 0.5cm in diameter. All embedded. Microscopic features reveals (A,B)- Sections studied showed fragments of a malignant neoplasm arranged in solid sheets comprising of polygonal cells with abundant eosinophilic keratinised cytoplasm, prominent intracellular keratin brigdes conspicuous nucleoli. Many areas shows keratin pearl formation along with necrotic exuadates. Diagnosis of Infiltrating well differentiated squamous cell carcinoma- right buccal mucosa was given.

Excisional biopsy was performed under general anaesthesia and specimen taken are

- a. Lesion from right buccal mucosa with marginal mandibulectomy
- b. Tissue from submental region - level IA
- c. Tissue from right submandibular region - level IB

Macroscopic features

PRIMARY LESION: Received wide local specimen of right buccal mucosa with portion of mandible altogether measuring 3.5 X 3.2 X 1.5 cm. Segment of mandible measures 2.9cm and bears 4 teeth. Buccal mucosa shows a tan brown thickened area measuring 3.2 X 1.7 X 1cm. Cut surface is firm to hard, gray white with focal tan brown areas. Clearances with margins areas follows.

- A1, A2: Anterior mucosal margin with lesion (window) (0.3cm)
- A 3, A4 Posterior mucosal margin with the lesion (window) 0.1cm)
- A5: Lateral mucosal margin with lesion (window) (0.2cm) - 1 all
- A6, A7: Lesion with lateral soft tissue (window) (0.2 cm) - 2 bits
- B1: Anterior gingival margin - 1 all
- B2: Posterior gingival margin - 2 all

Bony margins:-

- C1: Anterior bony margin (0.2 cm) - 1 bit
- C2: Posterior bony margin (0.4 cm) - 1 bit
- C3: Inferior bony margin (1.1 cm) - 2 bits
- C4 to C6, Bone at the site of lesion 4 bits

LEVEL IA: Received fibrofatty tissue measuring 1.8 x 0.9 x 0.3 cm. No lymph node identified grossly.

- D1, D2: Fibrofatty tissue - all

LEVEL IB: Received fibrofatty tissue with salivary gland measuring 2.5 x 2 x 1.1 cm. 3 lymph nodes are identified ranging in size from 0.8 x 0,5 x 0.3cm to 0.9 x 0.8 x 0.4 cm.

- E Salivary gland - 1 bit
- F1, F2: Lymph nodes - 3 bits

Microscopic features

- A1 to A7: Sections showed mucosa lined by hyperplastic stratified squamous epithelium with predominantly exophytic and superficially infiltrating lesion composed of nests and sheets of malignant squamous cells with intervening fibrovascular cores. Individual cell keratinization and keratin pearls are noted. Surface shows hyperkeratosis. Mitotic figures are seen. The depth of invasion is 0.1 cm. The tumor infiltrates into the skeletal muscle bundles superficially. There is no evidence of lymphovascular or perineural invasion. Stroma shows fibrosis and moderate inflammatory infiltrate composed of lymphocytes plasma cells, few eosinophils and multinucleated giant cells. Anterior, posterior and lateral mucosal margins are free of tumor.
 - B1, B2: Sections from anterior and posterior gingival mucosal margins are free of tumor.
 - C1 to C3: Sections from anterior, posterior and inferior mandibular bony margins are free of tumor.
 - C4 to C6: Sections show bony trabeculae uninvolved by adjacent tumor.
 - D1, D2: Sections from level IA lymph node shows fibroadipose tissue free of tumor. 1 lymph node is identified.
 - Histologic grade: Grade 2.
 - Tumour site: buccal mucosa.
 - Tumour focality: unifocal
 - Tumour size: 3.2 x 1.7 x 1 cm.
 - Tumour depth of invasion (doi): 0.1 cm.
 - Tumour extension: limited to buccal mucosa
 - Specimen margins: anterior, posterior and lateral buccal mucosal. Anterior and posterior gingival margins are free of tumor
 - Bony margin:-
 - Anterior, posterior and inferior bony margins, free of tumor.
 - Lymphovascular invasion: absent.
 - Perineural invasion: absent.
 - Worst pattern of invasion (wpoi): wpoi 1-4.
 - Regional lymph nodes:
 - Number of lymph nodes examined: 4
 - Number of lymph nodes involved: 0
- PATHOLOGIC STAGE CLASSIFICATION (PTNM, AJCC 8TH EDITION): pT2/NO/Mx (STAGE II)
With the correlation of clinical and histopathological findings final diagnosis was given as WELL DIFFERENTIATED SQUAMOUS CELL CARCINOMA.

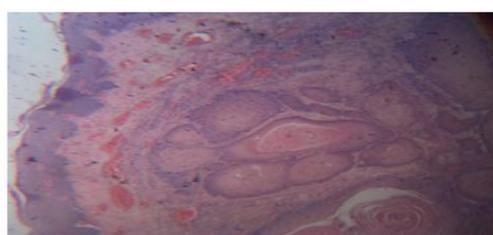


FIGURE 3A(4X)

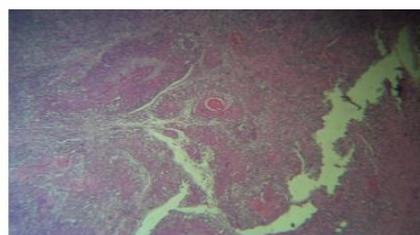


FIGURE 3B(10X)

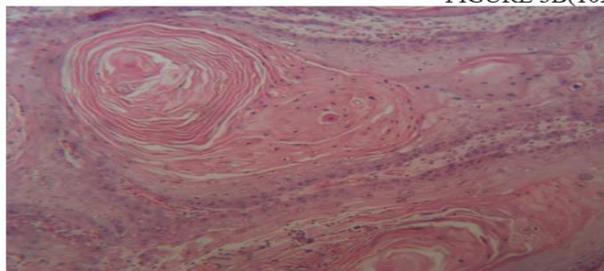


FIGURE 3C(40X)

FIGURE 3: A, B and C: Hyperplastic stratified squamous epithelium with predominantly exophytic and superficially infiltrating lesion composed of nests and sheets of malignant squamous cells with intervening fibrovascular cores. Keratin pearls were noted.

DISCUSSION:

Oral carcinogenesis is a multistage and multifactorial process. The risk factors for OSCC, betel and areca nut chewing are well-known habits commonly found in Southeast Asia. Individuals from these regions are more likely to develop oral potentially malignant disorders such as oral submucous fibrosis. Regions like southern Asia such as Indonesia, Singapore, Malaysia, Brunei, Cambodia, the Philippines, Vietnam, Thailand, and Myanmar present the highest and most alarming rates of OSCC in the world. The reasons behind this linked to betel chewing, a common and cultural habit in these parts of the world. The most involved subsites of oral mucosa are the gum and posterior buccal mucosa. [3]

Despite rapid advances in treatment modalities, oral cancer remains a life-threatening disease with no remarkable improvement in prognosis and survival. This is primarily attributed to delayed diagnosis or misdiagnosis. The oral cavity is amenable to routine screening and clinical examination for malignant changes and therefore, in theory, these changes should be more easily detected and diagnosed at early stages leading to more effective treatment.[2]

Aetiology factors are the use of tobacco in various forms including smoke-less tobacco is the main cause of oral cancer associated with excessive alcohol intake. High exposure to UV light increases the chance of developing cancer of the lower lip. Diets with low levels of vitamin A and C or inadequate consumption of vegetables and fruits may contribute to the risk of oral cancer. [5]

OSCC related to betel consumption presents different features from classical OSCC related to tobacco and alcohol consumption described in Europe and America. Among them, the most involved subsites of oral mucosa are the gum and posterior buccal mucosa. The gingivobuccal complex includes the buccal mucosa, gingival sulcus, gingiva, and retromolar pad.[3]

Patients with OSCC clinically is more common in males. Oral squamous cell carcinoma has a varied clinical presentation, including the following: Exophytic (mass-forming; fungating, papillary, and verruciform), Endophytic (invasive, burrowing, and ulcerated), Leukoplakic (white patch), Erythroplakic (red patch), Erythro-leukoplakic (combined red-and-white patch).

Radiographic features are the destruction of the underlying bone that appears on radiographs as a "moth-eaten" radiolucency with ill-defined or ragged margins (an appearance similar to osteomyelitis).

Histological features of OSCC will tend to be moderately well-differentiated neoplasms with some evidence of keratinization. Highly anaplastic lesions do occur but are uncommon; such lesions tend to metastasize early and widely and cause death early.

Several studies have described the carcinogenic, mutagenic, and genotoxic effects of betel quid ingredients, especially tobacco and areca nut. Betel quid is usually made of betel leaf (piper betel vine), areca nut, slaked lime, and tobacco. Other spices are added too, such as cardamom and cloves. The microtrauma generated by the friction of the fibers not only generates mechanical damage to itself but also enables the alkaloids and flavonoids to spread within the connective tissue [2]. Patients with dyskeratosis congenital and Fanconi anemia tend to develop oral SCC in younger age groups. Our patient did not have any signs and symptoms of these syndromes and no medical history.[1]

Early detection of SCC is vital as the prognosis is directly related to the size of the lesion. Lesions measuring <1 cm are amenable to treatment and have a long-term prognosis. Thus, it is prudent to biopsy any unexplained lesion that remains after 2 weeks following removal of any suspected etiologic agent to avoid unnecessary delay in diagnosing such conditions.[3]

REFERENCE:

1. Atarbashi-Moghadam, S., Lotfi, A., Poornaghi, S., & Mokhtari, S. (2019). Bilateral squamous cell carcinoma of buccal mucosa in a young adult man: a case presentation with review of literature. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 23(Suppl 1), 90.
2. Bharanidharan, R., Dineshkumar, T., Raghavendhar, K., & Kumar, A. R. (2015). Squamous cell carcinoma of the gingiva: A diagnostic enigma. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 19(2), 267.
3. Molina-Avila, I., Rojas, A. A., Gilligan, G., & Cordero-Torres, K. (2022). Oral squamous cell carcinoma in coca chewers from a north region of Argentina: A case series and review of literature. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 26(Suppl 1), S124.
4. Peddapelli, K., Rao, G. V., Sravya, T., & Ravipati, S. (2018). Basaloid squamous cell carcinoma: Report of two rare cases and review of literature. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 22(2), 285.
5. Rajendran R Sivapathasundharam B Shafer WG. Shafer's Textbook of Oral Pathology. 6th ed. Elsevier/Reed Elsevier; 2009.