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Correlating Clinical and Pathological Features in Diagnosing Squamous Cell Carcinoma – A Case Report

N. Aravindha Babu[1,*], A.M. Sherene Christina Roshini[2], E. Rajesh[3], N.Anitha[4]
[1]Professor, Department of Oral Pathology and Microbiology, Sree Balaji Dental College and Hospital, Chennai
[2]Post graduate, Department of Oral pathology and Microbiology, Sree Balaji Dental College and Hospital, Chennai
[3]Reader, Department of Oral pathology and Microbiology, Sree Balaji Dental College and Hospital, Chennai
[4]Reader, Department of Oral pathology and Microbiology, Sree Balaji Dental College and Hospital, Chennai
*Email ID :dr.aravindmsdcc@gmail.com

ABSTRACT
Oral squamous cell carcinoma is the commonest type of oral malignant tumour. Based on literature, squamous cell carcinomas of the alveolar ridge account for 9% of all the oral carcinomas. Oral squamous cell carcinoma mimics with various forms of inflammatory gingival lesions clinically and is often misdiagnosed in our routine clinical practice. The dentist should have knowledge about the clinical manifestation of SCC as early diagnosis and prompt treatment can decrease morbidity and mortality of the disease.
Keywords: SCC, Malignant lesions, Histopathology

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INTRODUCTION

Oral squamous cell carcinoma (OSCC) is the common oral carcinoma with many clinical presentations. It accounts for about 90% of all malignant oral lesions[1]. As per site specificity, carcinoma of tongue is the first common carcinoma with alveolar ridge SCC accounts for the second position. Based on local recurrence rate by site, mandibular alveolus carcinoma has the highest local recurrence rate where second being is the carcinoma of the tongue. Squamous cell carcinomas occurring all parts of the body, but they most commonly occur in skin and oral cavity.

Clinically oral squamous cell carcinoma gives an appearance of either white plaque or an ulcerated lesion [2]. Malignant lesions in the gingiva resembles inflammatory lesions of the gingiva. Oral carcinomas can often be misdiagnosed as other inflammatory lesions in the oral cavity thus delaying in delivering prompt treatment. Hence early diagnosis and treatment of oral carcinoma by dentist is essential for optimum treatment outcome [3]. Management of squamous cell carcinoma is mainly a surgical excision and a radical neck dissection in the case of lymph node metastasis.

CASE REPORT

A 63 year old female patient came to our hospital with the chief complaint of pain in left side of her tongue for the past 3 months. She had difficulty in swallowing and she also had discomfort in tongue movements. She had a history of thyroid disorder and she is under medication. She has a habit of tobacco and areca nut chewing for past 5 years.

Clinical examination revealed an ulcer which is 2x2.5 cm in size, white in colour and tender. Evidence of erythematous ulcer noted extending from left lateral surface of tongue to floor of mouth. The surface is rough and covered by a white pseudomembrane. On palpating the ulcer was tender and bleeding. The ulcerated borders are indurated. Patient had generalised gingival recession and she was partially edentulous in relation 26,27.

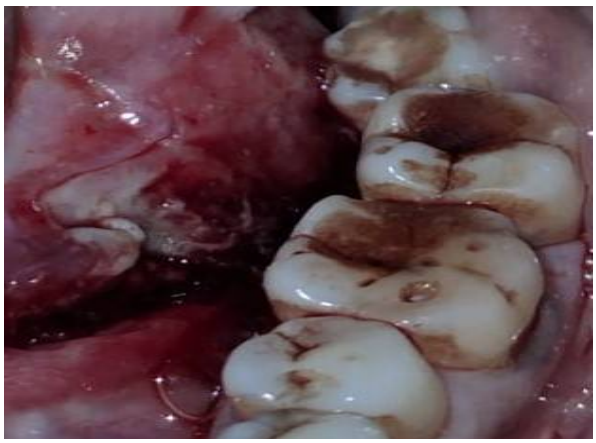

FIG 1: INTRAORAL EXAMINATION REVEALING ULCER IN THE LATERAL BORDER OF TONGUE

On extraoral examination left submandibular lymph node is evident and it is fixed to the underlying structure. The lymph node size measures about 2x2cm. On palpation right submandibular lymph nodes are tender.

HISTOPATHOLOGICAL FEATURES

The excised tissue after biopsy was received for histopathological examination. The excised single soft tissue bit was1.5x0.8x0.5cm in size, irregular in shape, brownish white in colour and firm in consistency. It was then processed and sectioned to find out the nature of the ulcer histopathologically.

Microscopically, the Haematoxylin and Eosin-stained histopathological section of the given specimen shows dysplastic surface epithelium with underlying connective tissue stroma. The epithelium shows dysplastic features such as basal cell hyperplasia, increased nuclear cytoplasmic ratio, increased mitotic activity, cellular and nuclear pleomorphism and enlarged nucleoli. The epithelium shows breach in the basement membrane. Malignant epithelial cells are seen invading the connective tissue stroma in the form of sheets, islands and clusters. Attempt to form keratin pearls are noticed in few areas. The connective tissue is densely collagenized with diffuse dense chronic inflammatory cell infiltrate. The deeper connective tissue shows invasion in the muscle fibres. Vascularity is moderate.

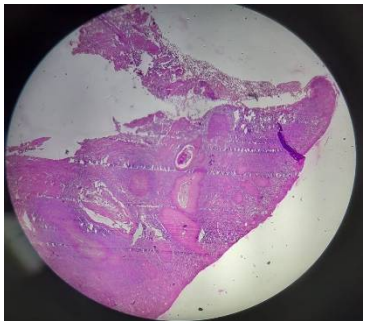

FIG 2: 4X VIEW OF THE GIVEN SPECIMEN

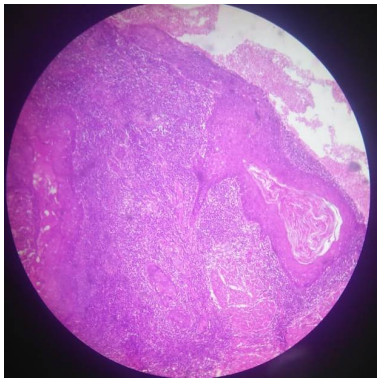

FIG 3: 40X VIEW SHOWING DYSPLASTIC FEATURES IN THE EPITHELIUM AND BREACH IS SEEN.

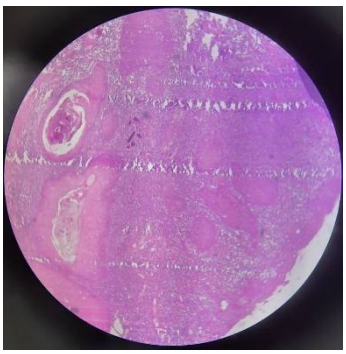

FIG 4: 40X VIEW SHOWING MALIGNANT EPITHEIAL CELLS IN THE FORM OF ISLANDS&CLUSTERS.

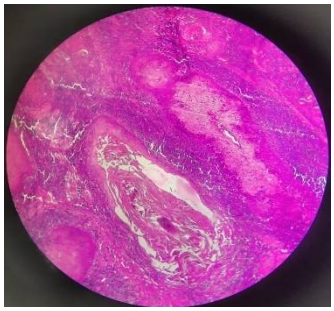

FIG 5: 40X VIEW SHOWING KERATIN PEARLS.

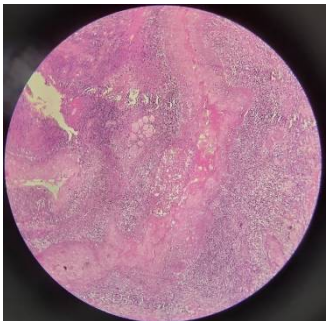

FIG 6: 40 X VIEW SHOWING CONNECTIVE TISSUE STROMA WITH DIFFUSED DENSE CHRONIC INFLAMMATORY CELL INFILTRATE AND SHEETS OF MALIGNANT EPITHELIAL CELLS.

DIAGNOSIS

Based on clinical examination provisional diagnosis was given as chronic non healing ulcer and SCC. After histopathological examination and by correlating with the clinical findings, definitive diagnosis for this case was given as Moderately differentiated squamous cell carcinoma (SCC).

TREATMENT

Initially, nonsurgical periodontal therapy including scaling and root planning was done. Incisional biopsy of the oral lesion was done under LA. After deriving a definitive diagnosis of SCC, the patient was referred to Higher centre for further treatments. We tried to contact the patient for future follow up but was in vain.

DISCUSSION

Squamous cell carcinoma is the most common malignant tumour of the oral cavity. The tongue, oropharynx, and floor of the mouth are the commonest sites and SCC of the gingiva and lips is rarely seen. SCC is common in mandibular gingiva when compared with maxillary gingiva [4].

Mostly cases of oral carcinoma are associated with tobacco chewing habit and usually appear as a premalignant lesion like leucoplakia before progressing to the malignant stage, but rare cases have also been found out with nontobacco-associated squamous cell carcinoma. Here the reported case is one with the history of tobacco chewing habit.

Regional lymph node metastasis is another feature of squamous cell carcinoma. Cervical lymph nodes of the submandibular triangle and upper jugular regions have more predilection of regional lymph node metastasis in the case of SCC of the lower alveolus.[5] Tender and palpable right submandibular lymph nodes of about 2x2 cm in diameter were detected in the present case. Prognosis is better in early oral SCC, specifically those cases that are well-differentiated and without metastasis, but the worst thing is that

most OSCC cases are not diagnosed at an earlier stage of the disease. The prognosis can differ based on a number of factors relating to tumour or treatment to the patient.

Treatment of squamous cell carcinoma is primarily a surgical excision followed by radiation therapy and chemotherapy as postoperative adjunct treatment modalities. Radical neck dissection is often required if the case has lymph node metastasis. Marginal resection is the treatment of choice when the bone defects does not extend beyond the mandibular canal and if it extends beyond the mandibular canal, segmental resection is the treatment of choice. 5-year cumulative survival rate for mandibular marginal resection group is about 78.1% and 72.8% in the segmental resection group [6]. Other innovations in the cancer therapy field were laser-based technology (photodynamic therapy), immunotherapy, and gene therapy to treat oral squamous cell carcinoma at an earlier stage [7].

CONCLUSION

Squamous cell carcinoma is the common malignant epithelial neoplasm with differed oral presentations. Hence the dental care professionals should have a knowledge about the characteristics of the disease. As disease progresses the most fatal complication is the distant metastasis. Hence, definite and timely diagnosis is very important and there is an increased risk of misdiagnosis as the clinical presentation of oral squamous cell carcinoma can mimic inflammatory gingival lesions.

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