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Case Report

Gingival squamous cell carcinoma masquerading as periodontal pathology

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Abstract

Cancer of the oral cavity and pharynx are the most common type of head and neck cancer with annual global incidence estimated at approximately 480,000 cases. More than 90% of oral cancer cases occur in people older than 45 years. Lesions of gingiva account for approximately 10% of the oral squamous cell carcinomas and may clinically present mimicking as benign or inflammatory lesions, leading to delay in definitive diagnosis and treatment with unfavourable outcome. Present case is a 60year old male patient who presented with chronic periodontal lesion since the past 6 months. However, a through history, clinical and histopathological examination revealed the lesion to be gingival squamous cell carcinoma and treatment was initiated.

Keywords: Gingival squamous cell carcinoma, Chronic periodontal lesion, Histopathological examination

1. Introduction

The incidence rate of oral cancers is around 4 per 100,000 of population worldwide. Despite technological advances in treatment and diagnostic methods, oral cancer is usually associated with high mortality and morbidity rates, especially in developing countries.[1] To increase the duration of survival and quality of life, concerted effort should be aimed at shortening the diagnostic procedure and time elapsed between diagnosis and treatment to limit possible tumor progression.[1] More than 90% of oral cancer occurs in people older than 45 years. Lesions of gingiva account for approximately 10% of the oral squamous cell carcinomas and may present clinically as an area of ulceration, exophytic mass, or red/white speckled patches. Carcinoma of gingiva constitutes an extremely important group of neoplasms as the lesion frequently mimics the reactive and inflammatory conditions affecting the periodontium, delaying the diagnosis and making the prognosis of the patient poorer.[2]

Here is presenting an unusual case of squamous cell carcinoma in a 60yr old man that clinically mimicked a periodontal lesion.

2. Case report

A 60year old male patient presented to the Department of Oral Pathology, SCB Dental College and Hospital with a chief complaint of pain in the gums in right lower part of mouth for the past 6 months. There was history of localized pain, bleeding from gingiva during brushing that was not relieved after taking medication**.** Past dental history also revealed that the patient had visited various dental & medical practitioners who had diagnosed the lesion as chronic periodontitis and palliative care was provided for the same. As there was no improvement in his oral health, he visited our hospital. Detailed history taking revealed Patient also had a habit of chewing tobacco (10-12 Gutkha per day) and smoking bidi (10-15 bidi per day) for last 15 yrs. Intraoral examination revealed a pinkish rough granular tender growth measuring about 1x1cm over the marginal & attached gingiva in relation to right lower canine to Right lower 1st premolar (fig-1). Borders were raised and firm on palpation with a firm, fixed, and broad base. There was no bleeding or exudation of pus on palpation, neither any associated tooth mobility. There was gingival recession in relation to 43. There was also an ulcerated mass in relation to periapical region of 41 in the attached gingiva. Patient had poor oral hygiene, tobacco stained teeth, halitosis, stains and calculus deposits. There was no regional lymphadenopathy. Routine hematological investigations were inconclusive. Lateral oblique radiograph of the patient revealed no significant underlying bone loss (fig-2). The chronicity of the lesion, tobacco history and atypical clinical findings raised a suspicion of malignancy. At this stage, a provisional diagnosis of GSCC (Gingival squamous cell carcinoma) was made and after obtaining the patient's consent, scrape cytology was immediately performed and the slides were

stained with leishman`s stain. Interestingly we found moderately dysplastic epithelial cells on the cytosmear (fig-3). Patient was advised for incisional biopsy following which a histopathological diagnosis of well differentiated squamous cell carcinoma of gingiva was made (fig-4). Patient was referred to Acharya Harihar Regional Cancer Centre (AHRCC) for further management where he subsequently underwent surgery. Patient was free of disease in a one year clinical follow up.

Fig-1: Intra oral view of indurated lesion in relation to premolar region

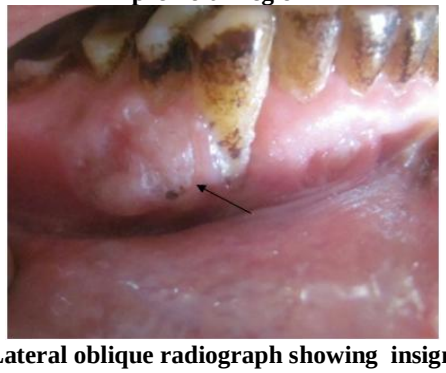


Fig-2: Lateral oblique radiograph showing insignificant bone loss in canine-premolar region.

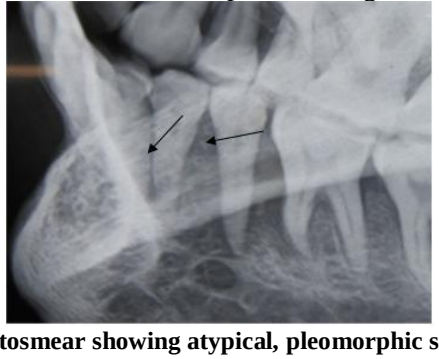


Fig-3: Cytosmear showing atypical, pleomorphic squamous cells showing nuclear hyperchromatism, increased nucleocytoplasmic ratio (Leishman`s stain, x40X)

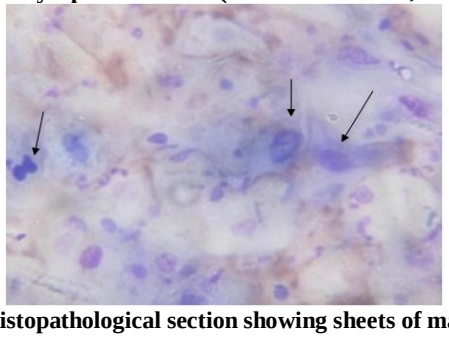
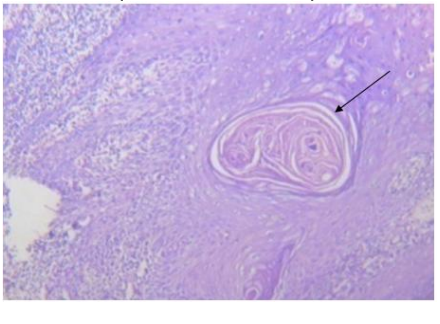


Fig-4: Histopathological section showing sheets of malignant squamous cells in connective tissue with surrounding chronic inflammatory exudate with keratin pearl formation. (H & E stain, x10X)



3. Discussion

Squamous cell carcinoma (SCC) is defined as a malignant epithelial neoplasm exhibiting squamous differentiation characterized by the formation of keratin.[3] Studies have shown that the most common etiologic factors associated with SCC are smoking, which carries 2–3 times greater risk than that in the general population (only 0.03% to begin with), smokeless tobacco use which increases the general risk fourfold, and chewing pan (a combination which includes calcium hydroxide, areca nut, and betel leaf) which increases the general risk by a factor of 8.[4][9] SCC is often asymptomatic, and the initial symptoms are usually an intraoral mass or swelling, ulceration, pain, ill-fitting dentures, mobility of teeth, or unhealed extraction wounds. Gingival SCC frequently resembles inflammatory lesions affecting the periodontium like pyogenic granuloma, gingivitis, periodontitis. In early stages, the lesion may closely simulate advanced periodontitis, associated with minimal pain, and may lead to a diagnostic delay.[4]

The present case clinically mimicked a periodontal lesion, and it could be ruled out only after histopathology examination.

Vast majority of gingival SCC (75%) are diagnosed within 1.5 months, while in a minority of cases, the total diagnostic time exceeds 1.5 months due to misdiagnosis. No significant differences in time before diagnosis were found when gingival cancers were compared to other oral tumors. However, by the time of diagnosis, gingival cancers had invaded adjacent structures more frequently than other oral cancers.[5] In our case patient was diagnosed after 6 months, but surprisingly without any significant bony involvement.

The fundamental factors for this diagnostic delay were negligence on part of the patients themselves (primary delay) or due to time taken by the primary physician to diagnose the condition (secondary delay). The majority of the lesions were observed by the patients themselves, indicating that oral self-examination have a role in the early detection of disease. However, a lack of awareness among patients as well as Medical & Dental practitioners resulted in the undue delay in many cases.[6]

Taking into account the fact that early diagnosis is a foremost step for reducing cancer mortality, efforts should be prioritized towards screening programmes designed to detect the disease during its asymptomatic phases. Educational interventions on the population particularly focused on risk groups (self-exploration) and on the professionals (clinician's index of suspicion) should include a sound knowledge of the disease presentation, specifically on sites like floor of the mouth, gingiva and retromolar trigone.[7] The overall survival rate for GSCC is about 54%.[8]

4. Conclusion

Many times, we are too quick to dismiss persistent lesions without further investigations and doing so could result in failure of diagnosis of a potentially life-threatening disease like squamous cell carcinoma as the worldwide survival rate of this condition is rather disappointing. The gingival location of oral squamous cell carcinoma (OSCC) coupled with early invasion of contiguous bone tissue leads to an advanced stage at the time of diagnosis. This would indicate that earlier referral for diagnosis & biopsy are absolutely necessary in persistent periodontal lesions.

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