

Gingival Squamous Cell Carcinoma - A Case Report

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DOI: 10.47750/pnr.2022.13.504.305

Abstract

BACKGROUND

Oral squamous cell carcinoma is considered to be an increasing health problem in the global public scenario. Squamous cell carcinoma is a malignant epithelial neoplasm characterized by various clinical manifestations. The most common sites are the tongue and the floor of the mouth, followed by the soft palate, gingiva, and buccal mucosa. When it occurs in gingiva, clinically it appears as an inflammatory lesion. This case report presents a case of moderately- differentiated SCC of gingiva. A 29-year-old female patient who was 5 months pregnant reported to the OPD with a 6 months history of burning sensation and painful lesion on gingiva from 34 to 37 (left molar mandibular) region. On clinical examination a proliferative lesion with purulent exudate was observed. The diagnosis of squamous cell carcinoma was made on incisional biopsy. The patient went through surgical management. Thus, gingival SCC is a condition which has better prognosis when diagnosed and managed early. Hence, dentists play an important role in early detection of gingival SCC and advising proper treatment as early as possible.

CASE PRESENTATION

29-year-old woman who was 5 months pregnant presented to the Department of Periodontics, NIMS Dental college and Hospital with burning mouth sensation and swelling in the left lower back teeth region for past 3 months. The patient had history of tobacco (ghutka) consumption for past 12years, 3-4 times daily. She was found to be systemically healthy. The intraoral examination revealed a swelling on the buccal and lingual aspect of teeth 34, 35, 36 and 37 extending from the mesial aspect of 34 to the distal aspect of tooth 37 of size 2 X 5cm. The gingival lesion appeared erythematous with speckled non-scrapable white patches and the surface was eroded and ulcerated. Clinically, the lesion was not well-defined, firm to palpation with a fixed broad base. Periodontal examination revealed bleeding on probing with exudation and tenderness on palpation.



Figure 1 Intraoral lesion

Pocket probing depth ranging from 6 to 8mm was present in relation to teeth 34 to 37. The teeth 34, 35, 36 were mobile. There was no tenderness on lateral and vertical percussion on teeth 34, 35, 36, 37. The gingiva and alveolar mucosa at the adjacent sites were clinically normal with plaque accumulation. Extraoral palpation revealed sub-mandibular lymph node involvement.

A provisional diagnosis was carried out as pyogenic granuloma in relation to teeth 34, 35, 36, 37.

INVESTIGATION

Orthopantomogram revealed radiolucency extending from 34 to 37 till the cervical third suggestive of horizontal bone loss.



Figure 2 OPG Showing Bone Involvement



Figure 3 incisional biopsy in relation to 34

Incisional biopsy was taken in relation buccal aspect of 34 and sent for histopathological examination.

DIFFERENTIAL DIAGNOSIS

Gingivitis, chronic localized periodontitis, or benign conditions like verruciform xanthoma, erythroleucoplakia, deep fungal infections (blastomycosis, histoplasmosis, coccidiomycosis, cryptococcosis) and chronic traumatic ulcer.

FINAL DIAGNOSIS

Squamous cell carcinoma (moderately differentiated)

TREATMENT

Routine periodontal phase I therapy including scaling and root planning was performed in relation to teeth 34 to 37 with chlorhexidine mouthwash twice daily for 7 days. After 10 days of incisional biopsy, healing was found to be unsatisfactory. The patient was referred to the department of surgical oncology with consultation from the Department of Oral and Maxillofacial Surgery for further surgical management of the tumor. But the treatment was performed 7 months later as the patient avoided surgery due to pregnancy which eventually led to progression of the lesion.



Figure 4 surgical excision of tumor

Under general anesthesia, Type II Modified radical neck dissection was done (preservation of spinal accessory nerve and internal jugular vein; removal of sternocleidomastoid muscle) along with Level I to IV lymph node excision done, Hemimandibulectomy from 31 to left sub-condylar region was performed. Reconstruction was carried out with the help of free fibula graft harvested from right fibular region and the donor site was closed in layers with vicryl 2-0 and ethilon 2-0 followed by split skin graft was placed over the donor site harvested from left thigh region.

DISCUSSION

Squamous cell carcinoma is defined as 'a malignant epithelial neoplasm exhibiting squamous differentiation as characterized by the formation of keratin and/or the presence of intercellular bridges' accounts for nearly 90% of all malignant neoplasm in oral cavity [1]. Gingival squamous cell carcinoma (GSCC) is a rare tumor which occurs less than 10% among intraoral carcinoma [3]. In general, the use of tobacco in its various forms, including smokeless tobacco, along with excess consumption of alcohol is regarded as the main cause of squamous cell carcinoma [4]. The etiology of GSCC is not specific but might be because of calculus formation and collection of microorganisms, the site of chronic irritation and inflammation lasting over a period of many years, lead to the development of the malignancy of gingiva [1]. Gene mutations may also cause cancer development in the pharynx and oral cavity however, no specific gene has been identified [7]. Carcinoma of mandibular gingiva is more common than maxillary carcinoma. Clinically, it appears as an area of ulceration, which may be purely erosive lesion or may exhibit an exophytic, granular or verrucous type of growth. The lesion is mostly asymptomatic in early stages and might be associated with pain [3,5]. It is mostly misdiagnosed as one of the many inflammatory lesions of the periodontium such as pyogenic granuloma, papilloma or even fibroid epulis. GSCC typically arises from keratinized mucosa in posterior site [8]. The attached gingiva is more frequently involved primarily than the free gingiva. The masses are locally invasive, involving the underlying bone and periodontal ligament of adjoining teeth and the adjacent mucosa [2]. In maxilla gingival carcinoma invades into the maxillary sinus, or it may extend onto the palate or into the tonsillar pillar. In mandible, extension into the floor of the mouth or laterally into the cheek as well as involvement along the inferior border of mandible. Pathological fracture may occur due to the aggressive nature of the lesion. One important aspect of gingival SCC is its higher risk of causing metastasis and causing death in aggressive cases [6].

In the present case, the patient had a well-defined erythematous, eroded and ulcerated lesion against the normal healthy mucosa which clinically resembles erythroleucoplakia. But the histological examination showed focal epithelial detachment, individual cell keratinization and keratin pearls, which confirms the lesion as gingival squamous cell carcinoma. Squamous cell carcinoma of gingiva is an aggressive disease, with best survival correlated with surgical stage [9]. In one study of 595 patients with oral cancer, 8% were gingival carcinomas, out of which 52% saw dentist in first contact [10].

Thus, gingival squamous cell carcinoma is quite different from other SCCs, mimicking localized periodontal disease. Hence, appropriate oral cancer screening and appropriate referral is important and gingival verrucous, white patches and persistent ulcers and swellings should be biopsied promptly.

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