A rare clinical manifestation of oral squamous cell carcinoma: A case report

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Abstract
Squamous cell carcinoma is the most common malignant neoplasm of the oral cavity, usually affecting individuals over 45 years of age, with a male predilection. This report describes a case of squamous cell carcinoma, involving the right buccal mucosa of a 45-year-old male patient, with a significant smoking history. The current case highlights the caution that needs to be exercised in clinical assessment and differential diagnosis of SCC from another chronic ulcer with similar features (tubercular ulcer).

Keywords: Squamous cell carcinoma, tubercular ulcer, differential diagnosis.

Introduction
Over the past two decades, there has been an urge in the investigations conducted pertaining specifically to oral cancer. A significant variation has been noted in the incidence of oral cancer, with high rates reported in the Indian subcontinent and parts of Asia. In India, cancer of the oral cavity is one of the five leading sites of cancer in either gender. More than 90% of the oral cancers occur in patients over the age of 45, with a male predilection. The incidence increases steadily with age until 65, when the rates level off. Squamous cell carcinoma is defined as “a malignant epithelial neoplasm exhibiting squamous differentiation as characterized by the formation of keratin pearls and/ or presence of intercellular bridges”. It is the most common neoplasm of the oral cavity. The main cause of oral cancer has been attributed to the use of tobacco in its various forms, especially when associated with the use of alcohol [1].

Case Report
A 45-year-old male reported to the department, with the chief complaint of a painful nonhealing ulcer in the right buccal region of the jaw since one year. There had been a gradual increase in the size of the ulcer over the past 1 year. The patient did have habits such as smoking tobacco (bidi 8-10 times/day since 15-20 yrs). General physical examination revealed that the patient was moderately built and nourished. All the vital signs were within normal limits. Extraoral examination revealed a symmetrical face with a concave profile and no extraoral swelling. (fig.1.) None of the lymph nodes (submandibular, sublingual or cervical group) were palpable. Intraoral examination revealed an ulceroproliferative red and white lesion of app size 2x3 cm, oval shaped, single ulcer seen on right buccal mucosa opposite to 1st, 2nd,3rd mandibular right molar (Fig.2.). The ulcer had indurated margins and everted edges. The base and borders were firm on palpation. The floor of the ulcer was erythematous, with the presence of bleeding points. It was tender on palpation, and bleeding was present on the slightest provocation. Based on the clinical findings, a provisional diagnosis of squamous cell carcinoma was made. A differential diagnosis of inflammatory hyperplasia, necrotizing sialometaplasia, tubercular ulcer. Since the history did not reveal any detail on possible tubercular infection, the positivity of the test was judged to be due to vaccination or a subclinical infection, as prevalent in the Indian subcontinent. Hematological investigations and incisional biopsy were the investigations advised. Incisional biopsy was performed and the tissue submitted to the department of oral pathology. The tissue specimen was 10% formalin fixed, reddish white in color, oval in shape, measuring 0.7 cm in length and 0.8 cm in width, with adequate...
connective tissue. On microscopic examination, the section showed hyperparakeratinized stratified squamous epithelium continuing into an area of non-keratinization. (fig.3.) at this end, the epithelium was seen invading the underlying connective tissue in the form of nests, cords, and Islands. The cells in the tumor islands showed cellular and nuclear pleomorphism, hyperchromatism, altered nucleo-cytoplasmic ratio and vesicular nuclei. Few atypical mitotic figures also are seen (fig.4.) predominantly ulcerated, atrophic epithelium invading into the underlying connective tissue (Figure 2). Areas of dyskeratosis and keratin pearl formation were also evident. The tumor islands were also moderately dense inflammatory cell infiltrate composed of lymphocytes and plasma cell. Few tumor giant cells were also seen. Small nests of dysplastic tumor cells were also seen invading the muscle plane. Areas of necrosis were also present. A diagnosis of moderately differentiated squamous cell carcinoma was given.

Discussion

The case presented a 45 years old, moderately built male showed an ulcer proliferative red and white lesion of approx. size 2x3 cm, oval shaped, single ulcer seen on right buccal mucosa opposite to 1st, 2nd,3rd, with indurated margins and everted edges. The base and borders were firm on palpation. The floor of the ulcer was erythematous, with the presence of bleeding points. It was tender on palpation, and bleeding was present on the slightest provocation. Oral ulcerative lesions are common findings, although often of similar clinical appearance, their etiologies can have a wide range such as immunological, traumatic, neoplastic or oral manifestations of the systemic and dermatologic disease. Clinically, almost all the oral cancers, barring the early forms, have the characteristic presentation in the form of a persistent ulcer with indurated margins [1]. Tubercular involvement of oral cavity is very rare; but when seen, can present in a variety of forms (ulcers, nodules, tuberculomas and periapical granulomas). They are most common in middle-aged and elderly patients [2]. Photomicrograph showing keratin pearls and individual cell keratinization with surrounding fibrous stroma (H&E; magnification ×40). Conditions on the basis of clinical signs and symptoms alone. While evaluating a chronic, indurated ulcer, clinicians should consider both infectious processes such as primary syphilis and deep fungal diseases and noninfectious processes such as chronic traumatic ulcer and squamous cell carcinoma. Thus in such cases, a biopsy for confirmatory diagnosis is mandatory. The most common clinical presentation in oral squamous cell carcinoma is either an ulcer or an ulceroproliferative growth. Classically, a carcinomatous ulcer has an irregular papillary surface, elevated borders and a hard base on palpation. The lesions are almost always chronic and have indurated margins. The lateral border, the ventral surface of the tongue and the lips are the most commonly affected sites, followed by the floor of the mouth, the gingival, the alveolar mucosa and the palate [1, 3]. The epidemiology of squamous cell carcinoma of the head and neck (SCCHN) is complex due to the multigenic nature of the disease and the number of potential environmental agents to which individuals may have been exposed. The major etiological agents that have been implicated are the use of tobacco and alcohol abuse. Other risk factors include nutritional deficiencies, occupation, viral infection and dental irritation. These risk factors do not, however, adequately explain 5 ± 10% of SCCHN cases [4,6]. They can develop from precancerous lesions, such as leukoplakia and erythroplakia, or apparently normal epithelium. The report of incisional biopsy in the current case confirmed a diagnosis of moderately differentiated squamous cell carcinoma, thus ruling out the tuberculous ulcer. Histopathologically, SCC is divided into 3 grades depending on the degree to which the tumor resembles the parent tissue and produces keratin. They are categorized as well-differentiated, moderately differentiated and poorly differentiated. A well-differentiated tumor is mature enough to closely resemble its tissue of origin, grows at a slightly slower pace. On the contrary, one which shows much cellular and nuclear pleomorphism that is, immature and bears no resemblance to the tissue of origin is designated as poorly differentiated. The tumor that lies between these two extremes is labeled as moderately differentiated [5, 7, 8] as reported in our case. The five-year survival rate studies have proven moderately differentiated SCC to be of a better prognosis as compared to the poorly differentiated variant [1, 3, 6]. Epidemiological surveys have revealed that of the areas of the oral cavity the mortality rate is lowest for lip cancer (0.04 per 100,000) and highest for the tongue, particularly the base (0.7 per 100,000), in which metastases may be ipsilateral, bilateral, or contralateral owing to gross vascular and lymphatic drainage. Also, the incidence increases steadily with age until 65 years, when the rate levels off [1, 3]. Cases of persistent leukoplakia or oral submucous fibrosis, are established early predictors of a possible change to SCC, with the rate of malignant transformation varying from 0.13 to 6%, and the risk increasing to 14% with dysplastic lesions [1]. Treatment of the intraoral SCC is guided by the clinical stage of the disease and consists of wide excision, radiation therapy or a combination. Usually, larger lesions require combined therapy. Those with lymph node metastases are advised a radical neck dissection and radiation therapy in amalgamation [9-11]. It is clear that the necessity of early diagnosis of SCC is paramount and hence, the responsibility of a dentist considerable.

Conclusion

Squamous cell carcinoma is the most common malignancy affecting the oral cavity characterized by a chronic nonhealing ulcer which has a range of provisional diagnosis. Although it may occur at any intraoral site, certain sites are more frequently involved. Because of the differences in clinical appearance, the nature of the lesion and particularly prognosis, it is well to describe and diagnose it appropriately on the basis of the clinical and histopathological examination. In this case, the classical presentation, with individual cell keratinization and keratin pearl formation, confirmed its resemblance to the parent tissue which validated its grading as a moderately differentiated tumor.
Fig 1: Extraoral view

Fig 2: Intraoral Examination

Fig 3: Photomicrograph showing tumor islands with keratin pearl formation (H&E staining.)

Fig 4: Photomicrograph showing Pleomorphism, Hyperchromatism, and individual cell keratinization with surrounding fibrous stroma (H&E staining.)

References