

Coexistence Of Tuberculosis With Intraoral Carcinoma -A Rare Case Report

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Abstract

Relative to the incidence of all cancers, oral and oropharyngeal squamous cell carcinomas represent about 3% of the total. The treatment of intraoral squamous cell carcinoma is guided by the clinical stage of the disease and consists of wide surgical excision, radiation therapy, or a combination of surgery and radiation therapy. The prognosis for patients with oral squamous cell carcinoma depends on both histological subtype and clinical extent of the tumor. The overall 5-year survival rate for oral squamous cell carcinoma is around 45 to 50%.

Introduction

Squamous cell carcinoma (SCC) of the oral cavity accounts for 4% of malignancies in men and 2% of malignancies in women, and is responsible for 3% of all cancer deaths [1]. The men/women ratio is about 2 to 1, and is associated with tobacco and alcohol use [2, 3, 4, 5, 6]. The cause of oral squamous carcinoma is multifactorial, both extrinsic and intrinsic **factors** may be responsible. Extrinsic factors include such external agents

as tobacco smoke, alcohol, syphilis, and sunlight. Intrinsic factors include systemic or generalized states, such as general malnutrition or iron-deficiency anemia. All forms of tobacco smoking have been strongly linked to the cause of oral cancer [7, 8, 9]

The most common site of intraoral carcinoma is the tongue and lip vermillion. Other sites of involvement, in descending order of frequency are the soft palate, gingiva, buccal mucosa, labial mucosa, and hard palate. The lesions of the buccal mucosa and gingiva each account for approximately 10% of oral squamous cell carcinomas [8, 9]. Gingival and alveolar ridge carcinomas usually are painless and most frequently arise from keratinized mucosa on a posterior mandibular site [3]. The clinical appearance varies from a white patch to a nonhealing ulcer or an exophytic lesion [9]. Mucosal changes, such as leukoplakia and erythroplasia, are frequent clinical findings [2, 4, 6]. The tumor has a special propensity to mimic the benign inflammatory changes of the gingiva [3, 9]. If tumor is

adjacent to a tooth, it mimics periodontal disease and pyogenic granuloma, and causes tooth mobility. The cancer may become clinically evident after tooth extraction [3, 4]. When oral squamous cell carcinomas present their typical clinical form of chronic nonhealing ulcers, other uicerative conditions such as tuberculosis, syphilis, and deep fungal infections should be considered. History of the patient is particularly important, and biopsy confirms the diagnosis [9].

Case Report

A 52 year old female patient came to the department of Oral medicine and Radiology, with chief complaint of swelling in her left lower back tooth region for past 3 months and associated with pain in the same region.(Fig 1&2).Patient was apparently healthy before 3 months and gives history of swelling in her left lower back tooth region for past 3 months , swelling initially was smaller in size and gradually increased and associated with pain .Pain is dull and intermittent in nature aggravates on mastication and relieved at rest. Swelling and pain did not subside after taking medication and remains the same. Patient is a known diabetic and hypertensive for past 3 years and under medication. Also, she gives history of cough with sputum for past 1 year . Patient has underwent extraction a year back.

on extra oral examination, Facial asymmetry is present due to a hemispherical swelling evident below the left lower inferior border of the mandible, measuring approximately 4*5cm in size extending posteriorly 2cm away from the parasymphysis region , posteriorly 3cm away from the angle of mandible , superiorly 1cm above the inferior border of the mandible and inferior 1cm below the inferior border of mandible. skin and colour over the swelling normal(fig 3). The swelling is soft in consistency ,tenderness on palpation is present, skin over the swelling

is pinchable , compressible but not reducible measuring 4*4cm .

On intraoral examination , a single irregular ulcer proliferative growth evident with whitish necrotic slough at left lower back edentulous alveolar ridge region of 36,37,38 roughly measuring 3.5* 3 cm in size extending anteriorly from the distal aspect of 35, posteriorly upto retromolar region, mediolaterally involving the alveolar ridge of 36,37,38.9(Fig4).The ulcer has rolled out and everted edge.The surface appears irregular and mucosa surrounding it appears erythematous. Maxillary gingival colour,contour, size, consistency , position and attachment appears normal. . The ulcero- proliferative growth is soft in consistency , tender, sessile and indurated base on palpation, bleeding on mild provocation.The surface appears irregular, floor appears yellowish- white slough and mucosa surrounding it appears normal. 2 ovoid ipsilateral Submandibular lymph nodes are palpable measuring approximately 1cmx1cm , tender on palpation , firm in consistency and not freely movable on all planes and provisional diagnosis are given as malignant ulcer of left buccal mucosa and on further lab investigation ESR was elevated and on radiographic examination,(fig 5) OPG reveals both the condyle and coronoid process appears, border of the mandible, body and ramus of the mandible appears normal, mental foramen and mandibular canal are visualised , border of the maxillary sinus appears normal, mid facial regions appears normal , soft tissue shadows are visualized . missing teeth 13,15,16,17 , 26,27,35,36,37,38; dc in 14,23,41,42,44,48, crestal bone loss till evident in the left lower back edentulous region with irregular margin, trabaculae pattern of bony appears normal and mesio angular impacted 18, disto angular impacted 28 suggestive of gen chronic periodontitis, partially edentulous , dc - 14,23,41,42,44,48.

On culture Pus exudate revealed as few pus cells, few epithelial cells and no organisms and on USG GUIDED FNAC OF CERVICAL LYMPH NODES: Heterogenous appearing nodes were seen in the left side of the neck; largest measuring 2.5*2.5*3.4cms in the left submandibular region. No significant vascularity seen in the lesion. Bilateral parotid, submandibular glands and the thyroid are normal in appearance and sizes. MANTOUX TEST revealed as Reactive in 23mm diameter indurations with red inflammation and finally histopathological report (fig 6) observed as Specimen shows dysplastic epithelial cells infiltrating into the underlying connective tissue stroma suggestive of Moderately Differentiated Squamous Cell Carcinoma. Final diagnosis arrived as tuberculosis co-existence with oral squamous cell carcinoma and surgical management followed by chemotherapy is done and followed up for 1 year.

Discussion

Oral carcinomas are amongst the most prevalent cancers in the world, and one of the leading causes of morbidity and mortality with squamous cell carcinoma (SCC) being the most common malignancy. Alveolar ridge SCC comprise 9% of all patients with oral SCC according to a report by Ildstad et al [10]. In parts of Southeast Asia, the incidence and prevalence of oral cancer are rising due to the increase in the use of tobacco, in many forms which is used as quid. The annual incidence rates of development of potentially malignant disorders were found to be 1.1-2.4/1000 in males and 0.2-1.3/1000 in females (11). Human papilloma virus also implicated as an aetiological agent in 50% of cases. (12)

The most common site of intra-oral carcinoma is the tongue, followed by, in descending order, the floor of the mouth, palate, and gingiva (alveolar ridge). No site within the oral cavity is immune to SCC. However, there are certain locations where cancer occurs relatively frequently

which are designated as “cancer-prone.” The lateral and ventral surfaces of the tongue and the floor of the mouth are the most common sites of oral SCC. This is based on the fact that the carcinogens within tobacco dissolve in the saliva and tend to pool and accumulate in the gravity-dependent regions of the oral cavity, also called the oral mucous reservoir [13].

When a patient presents with an intraoral lesion, it is imperative to obtain a detailed history and perform a thorough physical examination. Obtaining a history of nicotine/tobacco and alcohol use, dental history, trauma or injury is crucial. In the case reported, our differential diagnosis included malignant ulcer of the left alveolar ridge, deep fungal infection. After obtaining a biopsy, a definitive diagnosis of squamous cell carcinoma of left alveolar ridge was given.

In India, where most of the adult population is already infected with Mycobacterium tuberculosis, a diagnosis of reactivation/reinfection pulmonary TBs should be kept in mind while evaluating any patient with malignancy. Most people infected by Mycobacterium tuberculosis do not develop the disease throughout their life-time. However, alterations in the immune system, for example, co-infection with human immunodeficiency virus, diabetes mellitus, malignancy, end-stage renal disease requiring dialysis and patients on immune-suppressants, increase the risk of developing active disease considerably (14). The major immune-protective mechanism against TB is the cell-mediated immunity (CMI), so disease states causing impairment of CMI cause increased risk. (15,16)

Coexistence of TB with malignancy has also been well-reported in the past (17). Usually, in other situations, the presence of active TB in a malignant lesion is attributed to the chronic inflammatory state associated with TB or a chance finding. However, our patient also reported with tuberculosis under active treatment for it with coexisting

oral cancer. A possible mechanism for reactivation of TB in this patient could be the oral malignancy induced immunosuppression.

Conclusion:

The prognosis of squamous cell carcinoma is multifactorial and depends on size and location of the lesion, the extent of the lesion, presence or absence of metastasis, and the clinical staging of the disease along with the co-morbidities like tuberculosis, diabetes. Survival of the patient is greatly dependent on early clinical diagnosis and intervention.

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Legend Figures



Fig 1&2: showing swelling on the left side of the face



Fig 4: showing ulcer on the left alveolar ridge in relation to 37 region



Fig 5: Orthopantomogram revealing generalised periodontitis



Fig 3: showing facial asymmetry



Fig 6: histopathology of ulcer showing dysplastic epithelial cells infiltrating into the underlying connective tissue stroma