

Oral Verrucous Carcinoma - A Case Report with an Insight into its Differential Diagnosis

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Abstract:

Verrucous carcinoma or Ackerman's tumor is considered a low grade variant of oral squamous cell carcinoma. It usually occurs on buccal mucosa followed by gingiva, tongue and hard palate. Clinically it manifests as an ulcero proliferative growth with cauliflower like or irregular papillary appearance. Tobacco in any form, alcohol and viral infections from HPV are possible etiologic factors for this type of carcinoma. In this article, we have presented a classic case of verrucous carcinoma in a 39-year-old male with habit of chewing maawa (a form of smokeless tobacco). If left untreated or misdiagnosed, these lesions can transform into oral squamous cell carcinoma. Hence, proper diagnosis at appropriate time is essential for treating the disease, so that the patient is expected to have a salubrious life style.

Keywords: Verrucous, carcinoma, locally invasive, maawa

Introduction

Oral cancer is one of the most common cancers in India. It has a great impact on life and lifestyle. In most cases, these cancers are diagnosed at advanced stages that increases the difficulty in treating with considerable financial constraints¹. Most of these oral cancers appear as ulcerative lesions. In initial stages of the disease, these are confused with other non-neoplastic ulcers. These neoplastic ulcers are unresponsive to any palliative

treatment or treatments prescribed for other ulcers and chronically present over two weeks. For a good prognosis and to make the treatment a definitive approach to treat the neoplasms, early diagnosis is the key. Early diagnosis of these lesions not only helps to cure, also to have a salubrious living and treatments with less adverse effects and considerably less financial expenses². In this report, we have presented a case of oral verrucous carcinoma of male patient, who had the habit of consuming maawa for past five years and have quit after seeing the lesional growth.

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Case report:

A 39-year-old male patient who was an auto driver from Chennai visited our hospital with chief complaint of whitish growth on right side tooth region for past 3 years. There was no history of pain, swelling or burning/bleeding on the growth. Patient had no relevant medical history. Patient gave a history of chewing maawa for past 5 years and had quit the habit after onset of



Fig 1: Clinical appearance of the lesion

growth. All vital signs were in normal physiologic limits. Patient was well built. He was calm and oriented.

On extra oral examination the patient had symmetrical face, normal TMJ, competent lip and normal mouth opening (44mm-interincisally). Lymph nodes were not palpable. On intraoral examination, a solitary diffuse growth which was reddish white in colour was seen in the right buccal mucosa extending from the commissure of the lips to the retromolar region and measuring about 5X6 cm approximately with a papillary surface [Fig 1]. On palpation, all findings on inspection were confirmed. It was non-tender with soft to firm consistency, with indurated base and rough surface. Provisional diagnosis of ulceroproliferative growth in right buccal mucosa was given with differential diagnosis of Verrucous

carcinoma, Proliferative verrucous leukoplakia, Squamous papilloma, Squamous cell carcinoma.

Radiographic examination with Orthopantomogram revealed crestal bone loss giving a diagnosis of generalised chronic periodontitis. Radiographic examination ruled out central lesion [Fig2].

Investigations were done and an incisional biopsy was performed. The specimen was sent to the histopathological processing. Macroscopically the tissue was whitish brown in colour, irregular papillary in shape, measuring about 1.5X1cm in diameter and soft in consistency [Fig 3]. Previous histopathological investigation done in a private lab a year back was reported as hyperplastic squamous epithelium showing papillomatous/ verrucous hyperplasia with focal dyskeratosis in right buccal mucosa. Microscopic examination of H&E stained tissue in our hospital revealed the following histopathological findings [Fig 4,5]:

- The given H & E stained soft tissue section shows hyperparakeratotic stratified squamous epithelium with numerous papillary surface projections.
- Parakeratin plugging is evident in the surface epithelium.
- The epithelium also exhibits elongated and broad rete ridges with pushing margin in to the underlying connective tissue.
- The connective tissue exhibits diffuse chronic inflammatory cell infiltrate.



Fig 2: Radiographic investigation ruling out Intrabony involvement



Fig 3: Macroscopic appearance of the excised tissue.

- There is no evidence of cytological atypia in the epithelium.

On clinical and histopathological correlation a final diagnosis of verrucous carcinoma involving right buccal mucosa was given. Patient was referred to comprehensive cancer institute for further management.

Discussion:

Verrucous carcinoma is a slow growing tumor that appears predominantly as exophytic growth with pebbly, micronodular surface which tends to spread locally. It has a rare evidence of metastases. It is considered as a low

grade, well differentiated variant of squamous cell carcinoma. It was discovered by Ackerman in 1948. It is also called snuff dipper's cancer / Ackerman's tumor³. It is seen among 2 - 4.5% of all forms of Squamous Cell Carcinoma. Betel nut, tobacco (most common), ultraviolet radiation and HPV viruses are the most common etiologies for this verrucous carcinoma⁴.

Clinically it presents as a painless, thick white plaque which resembles a cauliflower. Most common site is buccal mucosa - 61.4%, lower alveolus- 11.9%, gingiva, and tongue in oral cavity⁵. It can also be seen in extra oral site like glottic larynx. Males are most commonly affected with a male to female ratio of 3.6:1. It is seen to affect population of age above 50 years⁶. Surprisingly it is a locally invasive tumor that doesn't spread to their regional lymph nodes.

Macroscopic features of the lesion depend on several factors like duration of lesion, degree of keratinization and changes in adjacent mucosa. The early lesions usually present as white patches that are confused with other lesions. An advanced or a fully developed lesion appears as a papillary growth that resembles a cauliflower seen spread over a large area of the mucosa. These lesions are exophytic, warty or plaque-like; granular, red-white, hyperkeratotic in appearance. Size usually ranges from 1-10 cm and may invade adjacent soft tissue and bone. The margin of the lesion is well defined and appears to show a rim of slightly elevated mucosa where the tumour has pushed under the edge of the normal tissue and has undermined it slightly. The cut surface is usually firm or

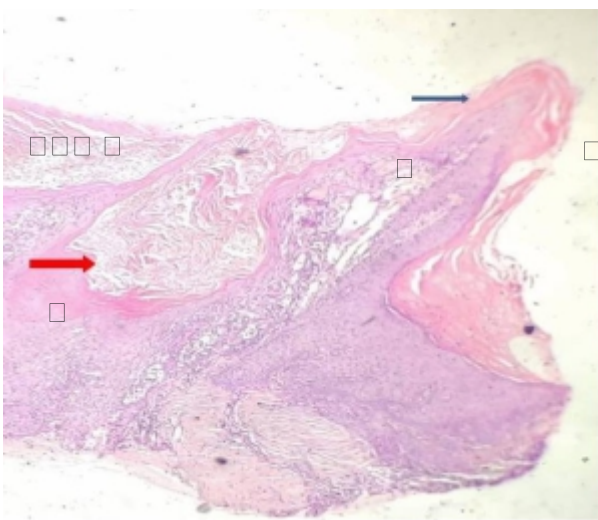


Fig 4: Microscopic examination revealing Church Spire Keratosis (a) and Parakeratin Plugging (b) (H&E, 10X).

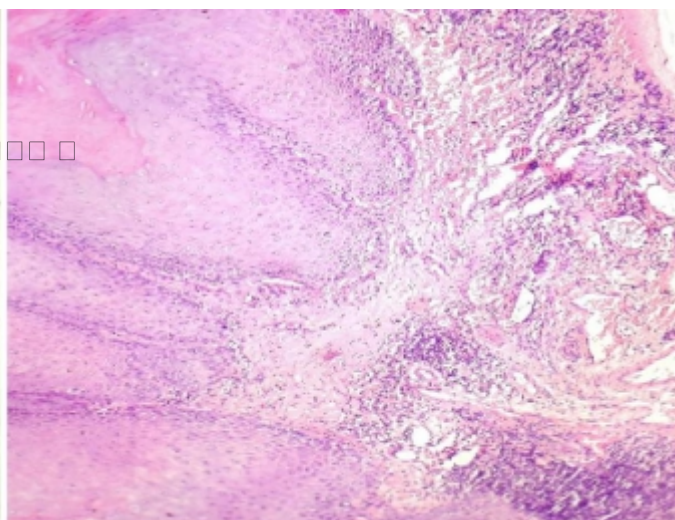


Fig 5: Microscopic examination revealing Broad Shaped Rete Ridges (H&E, 10X)

hard, tan to white in colour, showing keratin - filled with surface clefts³.

The microscopic features of the lesion include⁷:

- Hyperplastic epithelium with abundant keratin superficially projecting as exophytic church - spire keratosis.
- Parakeratin plugging.
- Bulbous well oriented rete ridges showing endophytic growth pattern with pushing borders which differentiate it from benign verrucous growth.
- Absence of dysplastic changes.
- Rapid transition from a normal epithelium to endophytic ingrowth - a significant feature to differentiate it from benign verrucous growths⁷.

Differential diagnosis for the lesion includes Verrucous hyperplasia, Proliferative Verrucous Leukoplakia, Papillary squamous cell carcinoma, Verruciform Xanthoma and Squamous papilloma.

In verrucous hyperplasia hyperplastic broadened rete ridges are seen above the adjacent normal epithelium. No pushing borders or parakeratin plugging will be seen. In case of proliferative verrucous leukoplakia, an exophytic and a hyperkeratotic lesion with prominent verruciform or papillary surface is seen. Acanthosis forming blunt projections into the lamina propria and presence of dysplastic changes will also be evident. In papillary squamous cell carcinoma predominantly papillary growth pattern centering around fibrovascular cores, minimal keratinization, necrosis and stromal invasion presenting as individual cells or tumor islands is seen. Verruciform Xanthoma shows acanthotic surface epithelium with clefts or crypts between the epithelial projections which are filled with parakeratin, and rete ridges are elongated to a uniform depth. Presence of Xanthoma cells is a unique feature. Squamous Papilloma shows proliferation of keratinized stratified squamous epithelium arranged in finger-like projections with fibrovascular connective tissue cores. Koilocytes are present in most cases of Squamous Papilloma⁸.

Management of the lesion involves Surgery, Radiation therapy, Chemotherapy, Cryotherapy, Laser therapy, Photodynamic therapy and Recombinant alpha-interferon therapy⁹.

Conclusion:

The case presented here is a classic example of a verrucous carcinoma. The patient had the habit of chewing maawa which is considered as the etiology for this lesion. The exophytic growth having a papillary cauliflower like appearance, absence of lymph node involvement with histopathological features like church spire keratosis, parakeratin plugging, well oriented bulbous rete ridges with no dysplastic changes makes this case a classic verrucous carcinoma. The case also presented with extensive local invasion with no evidence of metastasis which are also unique features of verrucous carcinoma. Early diagnosis of the lesion is the key to good prognosis, particularly to avoid extensive surgery, thereby reducing morbidity in these patients. It is imperative to include verrucous carcinoma as a differential diagnosis for any ulcero proliferative lesion. Both clinicians and pathologists should be aware of such ulcero proliferative lesions to ensure timely diagnosis, provide appropriate intervention and thereby improve the lifestyle of these individuals.

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Conflicts of interest: None declared

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