

Verrucous Carcinoma: A Case Report

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ABSTRACT

Background: Verrucous carcinoma is an uncommon but distinct variety of well differentiated squamous cell carcinoma. It is also called Ackermann's tumour & is predominantly seen in elderly men with the use of tobacco. In oral cavity, the most common sites are buccal mucosa, labial mucosa, alveolar mucosa and gingiva. Clinically it manifests as proliferative finger like projections resembling a cauliflower which is characteristic of its diagnosis. Histologically, papillary or verruciform surface and parakeratin plugs between the surface projections are seen with an intense infiltrate of chronic inflammatory cells in the connective tissue. The tumour is chiefly exophytic and does not metastasize, but it can invade and destroy oral tissues. The recurrence rate after treatment of verrucous carcinoma is high due to the dysplasia left close to the verrucous tumour. With the above background, an enticing case of verrucous carcinoma in lower right back region of alveolar ridge has been reported.

Keywords: Carcinoma, exophytic growth, verrucous carcinoma.

INTRODUCTION

Oral Verrucous Carcinoma (OVC), a variant of Squamous Cell carcinoma (SCC), was first described by Lauren V Ackermann in 1948 so it was known as "Verrucous Carcinoma of Ackermann" or "Ackermann's Tumor".¹ Other names used in literature are Buschke-Loewensteintumor, florid oral papillomatosis, epitheliomacuniculatum, and carcinoma cuniculatum.¹ Among the features associated with oral verrucous carcinoma is its predominant occurrence in patients with a positive tobacco history.³ However, verrucous carcinoma in patients without tobacco use were reported by McCoy and Waldron.⁴ The other etiological agents include HPV-6 and HPV-16 viruses, alteration of P53 tumour suppression gene expression and alteration of the keratinocyte cell cycle.⁵

Verrucous carcinoma may occur in several locations as in the head and neck, cutaneous surfaces and in the genitals and oral cavity is noted

as the most common site for this tumor.⁷ This tumour is seen in older individuals, the age range reported in literature is from 50 to 80 years and the median age being 67 years.¹ The tumor grows slowly, is locally invasive and has a non-metastasizing behaviour. It appears as a painless, thick white plaque resembling exophytic cauliflower like growth with keratin plugging.⁶ Because of the finger like structures projecting from the surface of the lesion, the term verrucous has been used.¹ Mucosal lesions involving the oral cavity present as white fungating plaques and are termed oral florid papillomatosis.¹ This tumour is endowed with enough clinical, pathologic and behavioural peculiarities to justify its being regarded as a specific tumour entity. This tumour may grow through soft tissue, penetrate into mandible or maxilla causing extensive local destruction and invade perineural space if left untreated. Regional lymph node metastasis is seen in rare cases and distant metastasis has not been reported.^{1,7}

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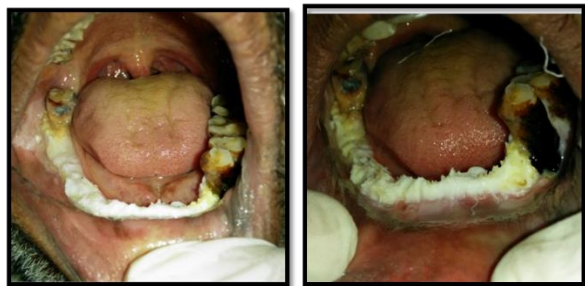


Fig 1: A solitary, exophytic and sessile growth seen on the lower alveolar ridge from 33 to 47 region.



Fig 2: Homogenous Leukoplakia was seen on the buccal mucosa of the left buccal mucosa, extending from corner of mouth to retromolar pad area.

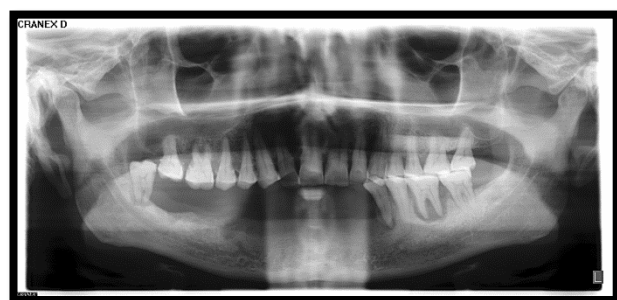


Fig 3: OPG showing soft tissue growth from 33 to 47.

Surgery has been the first choice of treatment for these lesions, and radiotherapy is controversial. However, surgery combined with radiotherapy is the next most preferable treatment and may have benefits, particularly in cases of extensive lesions. Recurrence rate is high in cases in

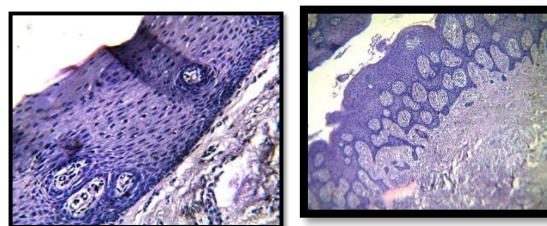


Fig 4: Hyperorthokeratotic, acanthotic and stratified squamous epithelium with broad rete ridges can be seen.

which either surgery or irradiation alone is performed.¹⁰ This case is of one such old-aged male patient who presented with a keratotic, large, exophytic and painless growth with multiple finger-like projections on the lower alveolar ridge.

CASE REPORT

A 60 years old male patient, residing at Vadavi, reported to the OPD of Oral Medicine and Radiology department of Ahmedabad Dental College and Hospital, with the chief complaint of mobility and pain in lower right back tooth region since 3-4 months. Patient had pain due to mobility, in relation to 48. Patient also noticed a large, painless growth on the front and right side of lower alveolar ridge, 6-7 years back, which gradually grew to the present size. Patient gave no relevant medical or family history. The dental history revealed that the patient had undergone extraction and exfoliation of multiple teeth, due to caries and mobility since last 7-8 years. The last tooth was extracted 2 years back, due to mobility. Patient had a history of placement of tobacco in lower left buccal vestibule, 4-5 times/day, since 30 years for 2-5 minutes every time. Patient also had habit of chewing guthkha occasionally 2-3 times in 15 days, since 45-50 years. He also had habit of smoking chillum, 8-10 times/day, since 45-50 years. On general examination, the patient was conscious, cooperative and well-oriented to time, place and person. All vital signs (temperature, pulse, respiration rate and blood pressure) were within normal limits. On extra-oral examination, the facial form was normal and the face was bilaterally symmetrical. Right submandibular lymph nodes were enlarged, non-tender, mobile and firm in consistency.

On intra-oral examination of hard tissue, 31,32,33,41,42,43,44,45,46,47 were missing from

the oral cavity. Generalized attrition was present. Plaque and calculus were moderate in quantity. Stains were present on buccal and lingual surfaces of all teeth. Grade II mobility was present i.r.t 34,48 and Grade I mobility i.r.t 35,36. Deep occlusal caries was present in 48. Angle's class I malocclusion was present on left side.

On intra-oral examination of soft tissue, the lips and both corners of mouth were normal. The gingiva was red, soft and edematous, there was loss of stippling and scalloping and bleeding on probing was present. Generalized gingival recession was present. A white exophytic growth was present on the lower alveolar ridge, a white plaque like lesion was present on the left buccal mucosa.

On inspection- intraorally there was a solitary exophytic, sessile growth, of about 3*1 cm in size, with keratotic finger-like projections over the lower alveolar ridge, extending mesio-distally from the region of 33 to the region of 47 and supero-inferiorly from the superior surface of the lower alveolar ridge upto the depth of the buccal vestibule, in the entire region. The growth was well-defined with irregular shaped margins. Surface of the growth was uneven at the periphery with finger like projections in the centre. Its colour was frank white (FIG. 1). Also, another irregular shaped white plaque-like lesion, with well-defined margins, of 2x0.5 cm in size, showing cracked-mud appearance was seen on left buccal mucosa, extending from corner of mouth to retromolar area antero-posteriorly and from upper to lower occlusal level supero-inferiorly. The anterior 1/3rd of the lesion was white in colour and the posterior 2/3rd was greyish-black in colour, due to melanin pigmentation. (FIG. 2)

All these findings were confirmed on palpation. The growth had deep-fissures with finger-like projections which were attached to the lower ridge by a base. The projections were perpendicular to the surface. The growth was non-tender and there was no discharge or bleeding on manipulation. It was firm in consistency. The surrounding structures were normal. On palpation of homogenous leukoplakia, it was found to be non-tender, non-scrapable and did not disappear on stretching. There was no bleeding or discharge on

manipulation, the surface was rough in texture and was elevated.

On the basis of these findings, the provisional diagnosis for this case was kept to be Chronic generalized periodontitis, Verrucous leukoplakia on lower alveolar ridge from 33 to 47 (Differential diagnosis- verrucous carcinoma, verrucous hyperplasia) and Homogenous leukoplakia on left buccal mucosa. Various investigations were performed thereafter, to come to a final diagnosis.

An orthopantomograph was taken. It showed normal maxillary & mandibular arches, normal left & right temporomandibular joints and missing teeth from 33 to 47 region. The remaining teeth were normal with adjacent bone loss. A soft tissue shadow was seen projecting from the surface of the lower alveolar ridge from 33 to 47 region. Perio-endo lesion was seen in 36 and abscess was seen in 34,48. (FIG. 3) Punch Biopsy was performed for the purpose of histopathologic examination. The stained section showed hyperorthokeratotic, acanthotic, stratified squamous epithelium with broad rete ridges & keratin plugs. Large number of chronic inflammatory cells were also seen in the underlying connective tissue. Thus, histopathologically it was confirmed as verrucous carcinoma on lower alveolar ridge from 33 to 47 region. (FIG. 4)

DISCUSSION

Verrucous carcinoma of the oral cavity is a separate clinicopathological entity distinguished from the usual squamous cell carcinoma because of its local invasiveness, non metastasizing behaviour and special clinical appearance.¹ It is a rare tumor, representing only 3-4% of all oral carcinomas. It is most common in 6th decade or older with a male predominance. These features went in favour of our case.^{1,4}

The etio-pathogenesis of verrucous carcinoma is not well established. Human papilloma virus (HPV) has been considered one of the possible etiologic factors. Long term tobacco usage, as in our case, seems to be highly associated with the development of oral verrucous carcinoma and the lesions often develop at the site where the tobacco is placed habitually. Poor dental hygiene, oral leukoplakic lesions are considered as predisposing

factors in the development of oral verrucous carcinoma.^{1,4,6,8,9,10} Ackermann noticed the most common site of occurrence in the oral cavity is the buccalmucosa(61.4%) followed by lower alveolus(11.9%), which is found in our case.^{4,6}

Verrucous carcinomas are large, slow-growing, well-demarcated, exophytic, soft, fungating growth with pebbly surface having locally aggressive nature. Enlarged lymph nodes are often palpable but not reactive. Histopathological diagnosis of verrucous carcinoma is difficult. The term “verrucous” was applied for lesions showing a keratoticexophytic surface composed of sharp or blunt epithelial projections with keratin-filled invaginations (plugging), but without obvious fibrovascular cores. The histological features of Verrucous carcinoma such as “elephant feet” like down growth seeming to compress the underlying connective tissue and typically showing minimal or absent cytological atypia, are widely known.^{1,3,4,6,9} Because it is cytologically benign, besides the focal basal cell nuclear hyperchromatism, distinction from verrucous carcinoma and verrucous hyperplasia (VH) cannot be based only on cytologic features.⁶ Differential diagnosis of verrucous carcinoma includes: (i) Squamous cell carcinoma showing verrucoid features, (ii) Proliferative verrucousleukoplakia, (iii) epithelial hyperplasia, (iv) Pseudoepitheliomatous hyperplasia, (v) Verruca vulgaris, (vi) Keratoacanthoma.^{1,2,9,10}

Verrucous carcinoma has an excellent prognosis because of its slow growth and gravity with which it metastasizes to regional lymph nodes. Various treatment modalities for VC include surgery, chemotherapy, radiotherapy, cryotherapy, laser therapy, photodynamic therapy and treatment with recombinant alpha interferon. Surgical excision i.e. complete surgical resection is considered as the best management for Verrucous carcinoma. The extent of surgical margin and the adjuvant radiotherapy are still controversial. Wide field surgical resection with good onco-clearance has been preferred by some of the oncosurgeons because of the chances of anaplastic transformation of this tumor. Chemotherapy with the usage of cytostatic drugs is also preferred in cases where surgery is not indicated. This may only help in reducing in the size of the lesion temporarily.^{1,9,10}

CONCLUSION

In most of the cases verrucous carcinoma, verrucous hyperplasia, verrucous keratosis are clinically indistinguishable from each other so histopathological evidence is necessary to give a confirmed diagnosis. Verrucous carcinoma presents as a thick warty keratotic lesion which is more common in males and is usually painless or asymptomatic. In this case a male with warty, exophytic lesion on lower alveolar ridge, which histopathologically proved to be verrucous carcinoma was present. OVC associated with leukoplakia may be an indication of “field cancerization” and can lead to multiple recurrences, so it is highly recommended, that such patients be kept under regular follow up.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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