

Ackerman's Tumour

– A Case Report

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Abstract

First described in 1948 by Ackerman, Verrucous carcinoma is a distinct form of Squamous Cell Carcinoma. It is an unusual and non-metastasizing tumour with a tendency for local invasion in comparison to squamous cell carcinoma. The most common site of occurrence is the buccal mucosa, followed by the mandibular alveolar ridge and gingiva. Slowly growing, well differentiated, verrucous in character, and often extensive, this neoplasm tends to invade local structures like mandible, soft tissues and antrum. Treatment of verrucous carcinoma is challenging; multiple medical and surgical therapies are often attempted with limited success.

For extensive lesions, radical surgery is indicated and often when fixation, or invasion of bone is present, mandibular resection with upper neck dissection is justified.

Keywords: Verrucous carcinoma, squamous cell carcinoma, mandibular alveolar ridge.

INTRODUCTION

Oral verrucous carcinoma (OVC) presents predominantly as an exophytic growth with a pebbly, micronodular surface, a slow growing rate and becomes locally invasive if not treated properly. The first ever documented evidence of a Verrucous carcinoma dates back to 1941 when Fridell and Rosenthal reported a case of well-differentiated squamous cell carcinoma (SCC) of the oral cavity as “papillary verrucous carcinoma.” Verrucous carcinoma (VC) a variant of well-differentiated SCC was defined by Ackerman in 1948 as a diagnostically challenging squamous cell neoplasia involving lip, oropharyngeal, and laryngeal mucosa.¹ Various synonyms are used to describe this tumour, including Ackerman’s tumour, Buschke Lowenstein tumour, florid oral papillomatosis, epithelioma cuniculatum, and carcinoma cuniculatum. The most common site of occurrence is oral cavity involving buccal mucosa, mandibular alveolar crest, gingiva, and tongue with glottic larynx being the most frequent non-oral site.^{3,5} The tumour rarely crosses 10 cm in its greatest dimension. Literature depicts that VC mostly occurs in males in 5-6th decade of life. Use of tobacco in the smokeless and inhaled forms has been predominantly reported in the affected patients, followed by betel nut chewing and use of alcohol.^{2,4}

CASE REPORT

A 40 year old male patient came to the department of oral medicine and radiology at Ahmedabad dental college and hospital with the chief complaint of growth in relation to lower right back tooth region since 20 days. Patient noticed a growth in the same region before 2 months for which he had undergone complete excision of the lesion before 1 and ½ months and it was diagnosed as Verrucous leukoplakia at that time. He noticed recurrence of the lesion before 20 days which has increased in size over the period of 20 days. Patient had undergone extraction in relation to 46,47 before 1 and ½ years due to caries. Patient had a habit of chewing tobacco with betel nut 4-5 packets per day since last 15-20 years and has quit the habit before 2 months. On intraoral examination 46, 47, 31 were missing and papillary growth was present in relation to lower right back edentulous ridge in relation to 46, 47 region. On inspection a yellowish white growth of approximately 3.5 × 2 cm in size was present on the lower right back edentulous ridge in relation to 46, 47 region extending antero-posteriorly from distal of 45 till retromolar pad area and mediolaterally from depth of lower buccal vestibule till depth of lingual vestibule. Tiny papillary projections were present covering the entire lesion. On palpation all inspectory findings were confirmed. The lesion was non tender, non-scrapable and did not disappear on stretching. Bleedings spots appeared on manipulation. Lesion was fixed to underlying tissue. Lymph nodes were non palpable.



Fig 1: Intraoral Picture

Verrucous carcinoma on lower right edentulous ridge was considered as provisional diagnosis. Squamous cell carcinoma, Proliferative verrucous leukoplakia, and Verrucous hyperplasia were considered as differential diagnosis. On OPG

examination all teeth were present except 46, 47 and 31. Soft tissue shadow was seen extending from distal of 45 till middle third of anterior border of ramus. Bony erosion was seen in respect to some parts below the soft tissue shadow.



Fig 2: Panoramic Radiograph

Histopathology report showed parakeratinized acanthotic stratified squamous epithelium exhibiting basilar hyperplasia, hyperchromatism, increased N:C ratio, abnormal mitotic figures, loss of

cohesiveness and epithelial pearl. Underlying connective tissue showed chronic inflammatory cells and dilated blood vessels.

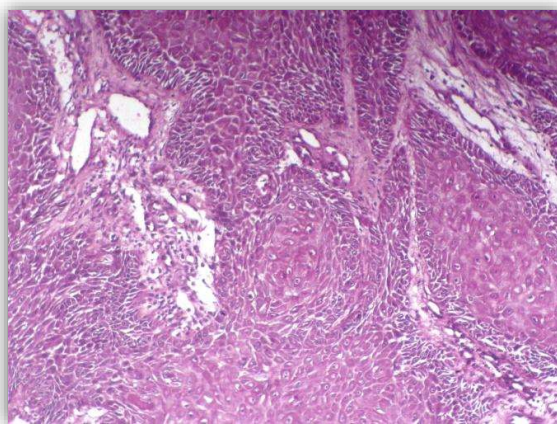


Fig 3: Histopathologic Report 10 X

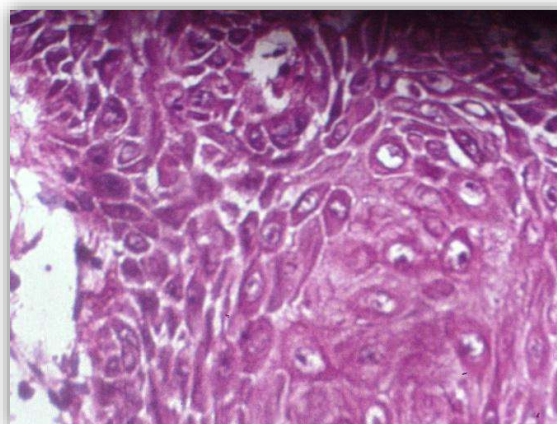


Fig 4: Histopathologic Report 40 X

Final diagnosis was established as **Verrucous carcinoma of lower edentulous ridge**

DISCUSSION

Oral VC (OVC) is a slow growing lesion with exophytic growth pattern and predilection for males in fourth to sixth decade which becomes locally invasive if not treated properly. Regional lymph node metastases are exceedingly rare, and distant metastases have not been reported.^{7,10} Enlarged lymph nodes often palpable are often reactive. The findings in our cases were synchronous with these characteristics.⁸ Betel nut chewing, poor dental hygiene, and human papillomavirus (HPV) infection have been implicated in the development of OVC. Use of tobacco in the smokeless and inhaled forms has been predominantly reported in the affected patients, followed by areca nut chewing and use of alcohol. Tobacco appears to be a major factor in the causation of verrucous lesions. Patients in our case had tobacco plus areca nut quid chewing habit which may have been the cause of the lesion. Histomorphologic features include densely parakeratinized papillary surface, deep clefts in the epithelium, blunt and voluminous rete ridges with little or no dysplastic changes exhibiting a pushing border effect, and an intact basement membrane. The resilient basement membrane probably acts as an effective barrier to prevent the carcinomatous growth. Verrucous Hyperplasia (VH) has been considered as an early form of VC and is believed to

have the same biological potential. In hyperplasia, most of the hyperplastic broadened rete ridges lay above the adjacent normal epithelium while VC on contrary exhibits a downward growth pattern of otherwise similar rete ridges. Appropriate treatment is surgical excision. Using radiotherapy is controversial as there may be radiation-induced anaplastic transformation of the lesion as reported by some authors, whereas some suggest VC is radiosensitive.¹ Newer modalities of treatment include Photodynamic therapy and CO₂ laser therapy.^{6,9}

CONCLUSION

The presence of malignant foci has been reported in Oral verrucous carcinoma cases. Many times it is difficult for the oral diagnostician to differentiate clinically; hence, a thorough clinical knowledge and in-depth microscopic evaluation are required by both clinicians and pathologists to diagnose this dilemma. Thus, both clinicians and pathologists must be careful about warty and exophytic lesions in the oral cavity. We conclude that a correct diagnosis is based on the precise comparison and integration of all the results and not on the isolated valuation of the different findings.

Conflicts of Interest

There are no conflicts of interest.

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