



Case Report

## Verrucous Carcinoma of Oral Cavity - A Case Report with Review of Literature

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### ABSTRACT

A white lesion located in the oral cavity can pose problems for both the clinician and the pathologist. Verrucous carcinoma (also known as Ackerman tumor) is a unique clinico-pathological variant of squamous cell carcinoma. This neoplasm typically involves the oral cavity, larynx, genitalia, skin, and esophagus. It is well known for its locally aggressiveness and for its clinically slow-growing behaviour with minimal metastatic potential. Verrucous carcinoma of oral cavity is so closely aligned with the use of snuff and chewing tobacco that it has been called the "snuff dipper's cancer." A case of verrucous carcinoma in 58- years- old male patient involving left buccal mucosa is being reported who underwent wide field surgical excision. The clinico-pathological features of verrucous carcinoma are being discussed.

**Key words:** Verrucous, carcinoma, oral cavity, clinical features.

### INTRODUCTION

Oral Verrucous carcinoma (OVC) is an uncommon variant of squamous cell carcinoma, which is a low-grade malignant tumor that rarely presents with distant metastasis. Ackermann in 1948 first described this neoplasm of the oral mucous membrane and the description of OVC were reported in the literature under a variety of names, including florid papillomatosis, oral florid verrucosis, verruca acuminata, verrucous squamous cell carcinoma, and papillomatosis mucosae carcinoides, Buschke-Loewenstein tumor, epithelioma cuniculatum, carcinoma cuniculatum, and

snuff dipper's cancer. By the 1970s, they were consistently termed "verrucous carcinoma" or "Ackerman's tumor," [1,2]

### CASE REPORT

A 58 years old male patient reported to our department with a chief complaint of burning sensation in the left inner cheek area on consumption of spicy food since one year. Patient had noticed occasional burning sensation in the left inner cheek area two year back, which had gradually increased since one year on consumption of spicy foods.

Patient had a habit of chewing tobacco since 20 years, 3-4 times / day. Patient used to keep the quid in the left buccal mucosa, Patient also brushes his teeth using finger and tobacco powder. The patient did not have any systemic disease. His medical, dental and drug history were non-contributory.

On physical examination, he appeared to be healthy and of normal size and weight. The rest of the general physical examination findings were within normal limits. On extra oral examination single left sub-mandibular lymph node was palpable, enlarged, firm, non-tender and mobile.



Figure 1. Intra oral photograph showing the grayish white patch on left buccal mucosa.

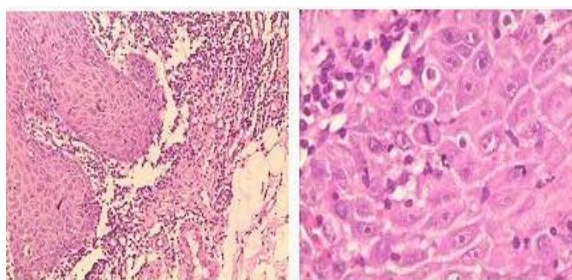
An intra oral examination revealed [Figure 1] an exophytic pebbly white growth measuring approximately 4X3 cm, seen on the left buccal mucosa. The lesion was extending anteroposteriorly - 1 cm away from commissure to the retromolar area and superoinferiorly - occlusal level of upper posteriors to the lower buccal vestibule, soft, tender and bleeding on palpation. Hard tissue examination revealed missing 23, 47 caries with 16, 17 with generalized grade I mobility [Figure 2].

Depending on the history and the clinical examination, we arrived at a provisional diagnosis of a verrucous carcinoma with a differential diagnosis of proliferative verrucous leukoplakia and squamous cell carcinoma. Patient was subjected to complete hemogram, blood sugar, prothrombin time, blood urea and

serum creatinine and all the reports were within the normal limit. Biopsy of left buccal mucosa [Figure 3] revealed features of verrucous carcinoma depicting swollen and voluminous rete pegs extending into deeper tissues lacking cytological atypia. Occasional mitotic figures were present.



Figure 2. Intra oral view showing the poor oral hygiene of the patient.



H & E X 10

H & E X 40

Figure 3. Low and high power Photomicrograph (H & E stained) showing histologic features of verrucous carcinoma.

## DISCUSSION

OVC is a special form of well-differentiated squamous cell carcinoma with specific clinical and histological features. The incidence varies from 4.5% to 9%, or even higher in some centers. In the oral cavity, verrucous carcinoma constitutes 2 to 4.5 % of all forms of squamous cell carcinomas. The age ranges from 50 to 80 years with a male predominance. The oral cavity is the most common site of occurrence, oral mucosal involvement include the buccal mucosa, followed by the mandibular alveolar crest, gingiva, and tongue. In addition, it is known to occur in the larynx, pyriform sinus, esophagus, nasal cavity and paranasal sinuses, external

auditory meatus, lacrimal duct, skin, scrotum, penis, vulva, vagina, uterine cervix, perineum, and the leg. We observed similar demographics in our patient. [3,1]

Verrucous carcinoma most of the times go unrecognized or unchallenged due to benign indolent tumour behavior. The tumor grows slowly and locally, invasive in nature and unlikely to metastasize. The etiopathogenesis of OVC is unclear; however, studies have shown strong associations with tobacco use, including inhaled as well as smokeless tobacco and alcohol. Tobacco chewing is a significant etiologic factor for the development of OVC. Lesions often develop at the site where the tobacco was placed habitually. Our patient has history of tobacco chewing and smoking. The association of carcinogen exposure with oral cancer has been reported. The sources of the carcinogens include tobacco, alcohol, marijuana or cigarette smoking, and betel nuts. The habitual chewing of "pan," a mixture of betel leaf, lime, betel nuts, and tobacco, has long been implicated in the high incidence of verrucous, type oral cancers in India. [1,2]

Rajendran, *et al.*, 1989 [4] recorded leukoplakia in association with OVC in 48% of their patients. The clinical association with leukoplakia and OVC is significant since untreated longstanding leukoplakia could progress to a verrucous cancer in time. Several investigators have focused on human papilloma virus (HPV) as a possible etiologic factor in head and neck cancer in general, and verrucous carcinoma (VC) in particular. Overexpression of the p53 (modulation of cell cycle control) oncogene is similar to that which has been observed in other head and neck cancers, and there is a suggestion that HPV and p53 may work through the same pathway. OVC are known to be associated with poor dental hygiene, ill-fitting dentures, low socioeconomic status. [1,2,5]

The epicenter of OVC was most commonly the buccal mucosa (61.4%), followed by the lower alveolus (11.9%). These findings are in lieu with current literature, which suggest that verrucous carcinoma has a predilection for the oral cavity; in particular the buccal mucosa and the lower alveolus. [1,4] Buccal mucosa was affected in our patient.

OVC has a characteristic gross appearance. These lesions are almost always large, exophytic, soft, fungating, slow growing neoplasms. It appears as a painless, thick white plaque resembling a cauliflower. Grossly, these lesions were rather sparsely described as "pebbly mamillated" in appearance, or "piled up in olgal folds with deep cleft like spaces between them. The fully developed VC is an exophytic gray to red bulky lesion with a rough, shaggy, papillomatous surface. The term "Verrucous" is used because of its fine, finger like surface projections. It may grow through soft tissue of cheeks, penetrate into mandible or maxilla and invade perineural space. [2,6]

VC has excellent prognosis because of its slow growth and gravity with which it metastasize to regional lymph nodes. Later in the course the contiguous structure may be involved with time and adjacent tissues including bone and cartilage may be invaded and destroyed. [3]

VC exists within the histologic continuum ranging from benign squamous hyperplastic lesions to invasive squamous cell carcinoma. Small superficial biopsies usually result in the diagnosis of benign hyperplasia or hyperkeratosis by the pathologist. Microscopically, verrucous carcinomas are usually broad based and locally invasive with papillary fronds consisting of highly differentiated squamous cell lacking usual criteria of overt malignancy. It has typically a heavily keratinized, or parakeratinized, irregular

clefted surface with parakeratin extending deeply into the clefts. The prickle cell layers show bulbous hyperplasia, but, for a considerable time at least, the tumor has a well-defined lower border and basal lamina. Atypia is minimal, and there is usually a subepithelial inflammatory infiltrate. [3,6] The differential diagnosis should include squamous cell carcinoma (SCC), proliferative verrucous leukoplakia (PVL), reactive keratosis, epithelial hyperplasia, pseudoepitheliomatous hyperplasia, verruca vulgaris, and keratoacanthoma when verrucous carcinoma affects cutaneous sites. [7]

Surgical resection with adequate margins is treatment of choice. Using a laser knife, the cutting edges were heat-degenerated and heat-degeneration might contribute the improvement of the local control of the carcinomas. It can also operate easily with less bleeding and no muscle constrictions. Radiation therapy is not usually applied since it may change the nature of the tumor to a poorly differentiated squamous cell carcinoma. [5] Hamamoto, *et al.* (2000), [8] reported that anaplastic transformation of VC after irradiation is not common and the radiosensitivity of VC is usually good, therefore radiotherapy can become a radical treatment for VC. However, some recent reports have shown different opinions about this issue. Trial of a HPV type 16 vaccine had been applied to eradicate the cervical cancer. [9] Tanaka, *et al.* (1992), [10] reported the effectiveness of preoperative chemotherapy for advanced VC of the tongue. The overall recurrence rate 28% some studies reported 6.12– 40%. The five years disease-free survival with surgical therapy was found to be 77.6% and younger patient have better survival rate than older patents. OVC have an excellent prognosis with surgical management. The significance of positive margins emphasizes the need for surgical resection with adequate margins. [1]

## CONCLUSION

OVC is a different clinicopathologic tumor distinguished from the usual squamous cell carcinoma because of its local invasiveness, non-metastasizing behavior, and special clinical appearance. The most frequently involved site is oral cavity. OVC should be analysed regarding conventional SCC, especially with those SCC showing “verrucoid” features. It is essential that the pathologist alerts the clinician to the progressive nature of the lesion. and recommends complete excision or close follow-up and re-biopsy. Further studies are still needed to compare the clinical behavior of patients with VC with that reported in Western countries.

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