

## Verrucous carcinoma in association with oral submucous fibrosis

### Abstract:

Oral verrucous carcinoma is a form of well differentiated squamous cell carcinoma characterized by exophytic over growth. It is slow growing and locally invasive tumor occurring in 6 th and 7 th decade of life. Smoking and chewing tobacco is found to be the most common etiological factor of verrucous carcinoma although oral leukoplakia may act as a predisposing factor. This is a rare case of oral verrucous carcinoma seen in association with oral submucous fibrosis in a young adult patient with history of chewing gutkha and smoking.

**Keywords** verrucous leukoplakia, OSMF, verrucous carcinoma, buccal mucosa

### Introduction:

Verrucous carcinoma is a distinct variant of differentiated squamous cell carcinoma with low grade malignancy, slow growth and no metastatic potential. It occurs in elderly patient around 60 to 70 years of age. It is first described by Ackerman, hence termed as 'Ackerman's tumour'. [1-2]

Verrucous carcinoma is considered as a 'garden variety of squamous cell carcinoma' because of low grade malignancy, slow growth and no metastatic potential. Oral verrucous carcinoma is a rare tumour of older people, diagnosed in only 1 to 3 of every 1,000,000 persons each year. [3]

Since it is closely associated with snuff and chewing tobacco it is also termed 'snuff dipper's cancer'. [4-5]

The etiopathogenesis of OVC is unclear, however, studies have shown strong associations with tobacco use, including inhaled as well as smokeless tobacco, alcohol, and opportunist viral activity associated with human papilloma virus (HPV) [6-7-8].

Oral sub mucous fibrosis (OSMF) is a potentially malignant epithelial disorder associated with chronic betel nut chewing habit. [9] The development of OSCC is seen in one-third of the OSMF patients though the reported cases of VC is rare in such patients. Herein, we are presenting a rare case report of verrucous carcinoma in

a 35yearold male patient with OSMF who reported with a chief complaint of an intra-oral growth in relation to left side left of mouth since 4-5 years.

### Case Report:

A 35 year old male patient with a chief complaint of white patch on left side of cheek region since 4 years. Patient reported that 3-4 years back, he noticed a white colored patch on left side of his mouth in the cheek region. The patch gradually increased in size with time to its present size. Patient gives no history of burning sensation or pain in the left side. It was the first dental visit of the patient. No significant medical history or any kind of prolonged illness was reported. Patient is not aware of any kind of drug allergy. family history was also nonsignificant.

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Patient was taking 5-6 pouches of gutkha since 7-8 years, 5-6 times a day, but has quit the habit since 2-3 years. He also consumed 2-3 cigarettes/day for 2-3 months and had quit this habit 4-5 days before he reported to us.

The general examination and extra oral examination were normal except for left side sub mandibular lymph nodes which were palpable, firm and mobile. On intra oral examination a white patch was present on the left side of the buccal mucosa, bilateral blanching of the buccal mucosa was also seen. The detailed inspection revealed an irregular shaped solitary, white hyperkeratotic lesion of approx. 7X3 cm was present on left side of buccal mucosa extending superoinferiorly from the maxillary teeth to the mandibular teeth posteriorly. The surface of the lesion was hyperkeratotic, exuberant and exophytic with multiple nodular projections with fissures in between describing a pebbled, mammillated appearance. (Figure 1)



Figure 1- Intra oral image showing the typical exophytic, pebbled and mammillated appearance w.r.t left buccal mucosa.

The margins of the lesion were demarcated w.r.t its anterior periphery but not much clear posteriorly. The surrounding mucosa showed blanching. On palpation, hyperkeratotic lesion had rough surface giving a warty appearance with palpable multiple projections of hyperkeratotic tissue giving leathery feel on touch. The base was slightly indurated, lesion was non-tender, non-scrapable fibrous bands were palpable on the right side. On the basis of history of gutkha chewing, and clinical examination, provisional diagnosis of verrucous leukoplakia with bilateral OSMF clinical staging II (Khanna and Andrade) [10] was given. The incisional biopsy was done and specimen (figure 2) was sent for histopathological examination. Hyperkeratotic stratified squamous epithelium overlying the connective tissue stroma, the epithelium shows hyperplasia, acanthosis, with the broad and blunt rete ridges and areas of keratin plugging (Figure 3). The epithelium shows minor salivary atypia but at areas loss of basal cell polarity and hyperplasia are also seen. Few cells also show dyskeratosis. The final diagnosis was given as verrucous carcinoma w.r.t left buccal mucosa. Further patient was recalled after 7 days to see healing of the biopsy area and then referred to oral surgery department for complete surgical excision of the lesion post his biopsy report confirmation.

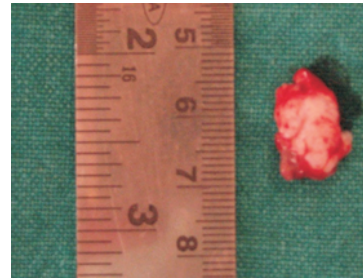


Figure 2.-Specimen

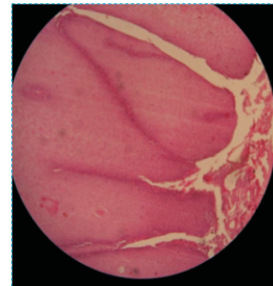


Figure 3: Photomicrograph with 10x magnification showing clear broad and blunt rete ridges.

#### Discussion:

According to Shear and Pindborg, tobacco chewing appears to be the major causative factor for verrucous carcinoma. [11] Documented cases show the existence of verrucous carcinoma in association with tobacco pouch or leukoplakia, but the association with OSMF is found to be rare as seen in our patient. Oral verrucous carcinoma is a rare, specific variant of well-differentiated oral squamous cell carcinoma with characteristic clinical and histological features. The incidence of verrucous carcinoma varies from 4.5% to 9% or even higher as reported in some centers. In oral cavity, verrucous carcinoma constitutes 2% to 4.5% of all forms of oral squamous cell carcinoma. The most common areas affected by oral verrucous carcinoma are the buccal mucosa and the lower alveolus with a reported incidence of 61.4% in relation to the buccal mucosa and 11.9% for the lower alveolus. These findings are in line with current literature which suggests that verrucous carcinoma has a predilection for the oral cavity, particularly the buccal mucosa and the lower alveolus. [12] This coincides with finding in our patient as well. The role of human papilloma virus (HPV) in verrucous carcinoma has been a matter of debate. Shear and Pindborg reported that out of 28 patients with verrucous lesions, 24 (86%) used tobacco and one was an areca nut chewer. Tobacco appears to be a major risk factor in the causation of verrucous lesions. [13] In our patient, chewing gutkha and smoking tobacco seemed to be the causative factor which agrees with study of Jacobson and Shear, they surveyed 198 cases of OVC and described 15 personally-observed cases, where incidence of smoking was found to be 77% (7 out of 9 patients). [14] However, their study was purely observational and could not offer any evidence to emphasize the relevance of smoking as an etiological factor for OVC.

The problems in diagnosing VC are discussed in many reports in the literature. Verrucous hyperplasia/leukoplakia is the initial pathologic diagnosis in 60% of cases as was in our case but association with OSMF makes it a rare co relation. The diagnoses of VC is proved by pathologic report of a further deep incisional biopsy or wide excision. VC exists within the histologic continuum ranging from benign squamous hyperplastic lesions to invasive squamous cell carcinoma.[15]

### Conclusion:

Oral sub mucous fibrosis (OSMF) is a condition associated with an increased risk of malignant transformation. Verrucous carcinoma is an indolent, low-grade, carcinoma with benign histologic appearance. There are very few cases of verrucous carcinoma (VC) in cases diagnosed with OSMF reported in literature. It is stated that verrucous carcinoma may arise de novo or it may arise from potentially malignant epithelial lesions (PMELs) including OSMF. The characteristic features of verrucous carcinoma include a slow growth, a lack of distant metastases, its pathognomonic pattern of local invasion and the risk of progression to oral squamous cell carcinoma (OSCC). Surgical resection with adequate margins is the treatment of choice. Further radiologic investigations like OPG and CT-scan to rule out any bone involvement. In case CT scan shows any of the jaw bone than resection of the involved bone along with extraction of the teeth present in the affected part.

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