International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Impact Factor (2012): 3.358

Hybrid Verrucous Carcinoma - A Case Report

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Abstract: ***In 1948, Ackerman first coined the term "verrucous carcinoma" to describe a variant of well-differentiated squamous cell carcinomas of the oral cavity. Similar lesions of the skin, other mucosa or mucocutaneous regions were subsequently reported. To date, verrucous carcinoma has been considered to be a variant of well-differentiated squamous cell carcinoma, which sometimes shows invasive changes but rarely metastasizes. Occasionally foci of invasive squamous cell carcinoma were found in verrucous carcinomas, this entity is called a hybrid verrucous carcinoma. We report a case of this hybrid lesion occurring in the buccal vestibule of a 60 year old male patient. The removed mass shows the typical features of verrucous carcinoma, but focally conventional squamous cell carcinoma area is also noted.***

Keyword: Oral Cavity, Verrucous hyperplasia, Hybrid verrucous carcinoma, Proliferative verrucous leucoplakia, Squamous cell carcinoma,

1. 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-Loewenstein tumor, florid oral papillomatosis, epitheliomacuniculatum, and carcinoma cuniculatum.[2] The most common site of occurrence is oral cavity, other sites being 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.[3,4]. OVC has a predilection for male in sixth decade with a slow growing rate and becomes locally invasive if not treated properly. But, distant metastasis is rare.[5] Clinically, it presents as a plaque like lesion with finger like projections resembling cauliflower, [6] Tobacco in both smoking and smokeless form, alcohol and opportunist viral infections are the most associated etiologies with OVC.[5] We report a case of hybrid verrucous carcinoma of the buccal vestibule, which shows mainly verrucous carcinoma features with focal area corresponding to conventional squamous cell carcinoma i.e, cellular atypia.

This type of tumor should be differentiated from conventional squamous cell carcinoma, because it exhibits relatively indolent course like verrucous carcinoma.

2. Case Report

A 60 year old male presented with a chief complain of pain and difficulty in chewing food since last 1 year. Patient noticed a small, painless growth over the left buccal mucosa 1 year back, which gradually grew to the present size. Patient developed pain 3 months back which was initially mild and intermittent but has aggravated since 10 days. He gives a history of tobacco chewing from last 10 years. On extraoral examination a swelling was observed on the left side of the face, which extends from corner of mouth to the lower border of mandible. Submandibular lymph node was palpable and tender, mobile and firm in consistency. On intraoral examination a (Fig.1) white fungating, exophytic growth with ulcerations was observed on the left buccal mucosa extending from reteromolar area to corner of mouth, thus obliterates the mouth opening. Provisional diagnosis of Verucous Carcinoma and differential diagnosis of Proliferative verrucous leucoplakia, Squamous cell carcinoma, Papilloma, Verrucous hyperplasia was given. An excisional biopsy was done for histopathological analysis. Microscopically The H&E stained section revealed presence of parakeratinised stratified squamous epithelium with underlying inflamed fibrovascular connective tissue stroma. Epithelium has broad, bulbous reteridges with pushing margins (Fig. 2) invading into the deep connective tissue stroma (Fig.3). Parakeratin plugging is also evident (Fig. 4). The connective tissue stroma is dense fibrous stroma with chronic inflammatory cell infiltrate predominantly lymphocytes & plasma cells, numerous blood vessels & extravasated RBCs are also visualized. The tumor cells were generally uniform, but only one area revealed tumor cells showing marked cytological atypia, compatible with conventional squamous cell carcinoma (Fig.5). The remaining flat mucosa showed atypical changes focally. This tumor was diagnosed as verrucous carcinoma with focal area of conventional noninvasive squamous cell carcinoma or a hybrid verrucous carcinoma.

3. Discussion

VC first described in 1948 by Lauren V. Ackerman is a distinct variant of differentiated SCC with low grade malignancy, slow growth and no or only low metastatic potential. [7,8] It is often associated with long-term use of smokeless tobacco although examples occur among nonusers.[6, 9] Betal nut chewing, poor dental hygiene and Human Papilloma Virus (HPV) infection have been implicated in the development of oral VC. The tumor representing 2–12% of all oral cancers mainly occurs in older men (Koch et al. detected median age at diagnosis 69.0 years, although many cases have also been documented in older woman in areas where the habit of snuff dipping has been popular among women (e.g. West Virgina). Verucous carcinoma in association with lichen planus have been reported.[10, 11]

With respect to the upper aerodigestive tract, where the VC most often arises, the oral cavity, particularly the cheek mucosa, gingivae and retromolar areas, remains the most common site of origin. The tumor may also be found on different sites including skin, paranasal sinus, [12, 13,14] bladder and anorectal region, male and female genitalia, sole of the foot, and ear.[15]

Macroscopically the VC shows up an exophytic, broadly implanted tumor fungating in aspect with a warty or papillary surface. The histological appearance is described as highly differentiated squamous tumor covered by a thick keratinized layer arranged in deeply invaginated folds with a typically inflammatory reaction in the stroma composed of lymphocytes, plasma cells and histiocytes that tend to delimit the tumor mass [16]. The sharply circumscribed deep margin is often characterized as “pushing border”. The benign microscopic appearance is controversal to the tumor‘s destructive clinical behavior, although lymph node metastasis is not characteristic. The microscopic aspect ranges from benign squamous hyperplastic lesion to SCC [4]

The development of VC from proliferative lesions makes it likely that the tumor develops from a benign precursor. Thus, Hansen et al. described 10 histologic stages of proliferative verrucous leukoplakia, [17] ranging from a persistant and slow-growing benign unifocal, homogenous leukoplakia to a less differentiated squamous cell carcinoma. Batsakis et al. reduced the number of histologic stages to the following four: clinical flat leukoplakia without dysplasia, verrucous hyperplasia, VC, and conventional SCC.[18]

The histologic similarity between verrucous hyperplasia and VC is so close that some authors consider verrucous hyperplasia as a morphologic variant of VC. Batsakis et al. regard verrucous hyperplasia as an irreversible precursor of VC and recommend the same treatment.[18]

No obvious differences between VC and well-differentiated SCC were found in proliferative activity of tumor cells as evaluated by PCNA labeling index or in p53 protein expression. However positive expression of CD44 was detected clearly more often in VC compared to well-differentiated squamous cell carcinoma, which might provide an explanation for the low incidence of lymph node metastasis in oral VC [19].

Difficulties remain as to the appropriate classification of those lesions with dominant features of VC which also contain small foci of squamous cell carcinoma. In 20% of VC coexistent foci of less-differentiated SCC could be found. A non-verrucous SCC (of varying degree and differentiation) that arises synchronously with the VC and in the same microscopic fields is defined by Batsakis et al. as a “hybrid VC”, which must be separated from papillary squamous carcinoma.[20]

Wide surgical excision is recommended as treatment of choice.Operative treatment of VC should not include neck dissection, even though enlarged lymph nodes may be palpated.[20]

In this case the patient offered typically clinical features of a VC: a monstrous fungating tumor of the oral cavity with local destruction of the adjacent anatomical structures but no lymph node mestastasis. Histologically it shows mainly verrucous carcinoma features with focal area corresponding to conventional squamous cell carcinoma cellular. So the final diagnosis of a hybrid VC, or hybrid verrucous squamous cell carcinoma was made.

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Figure 1

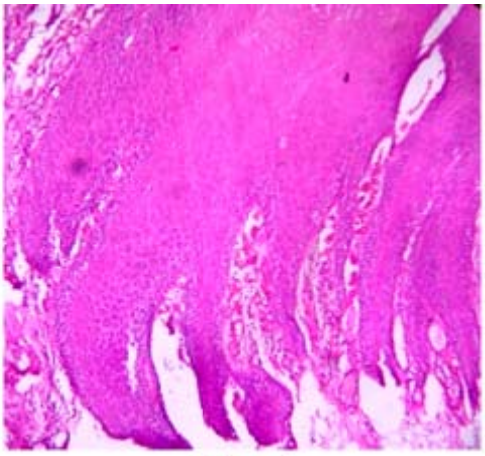
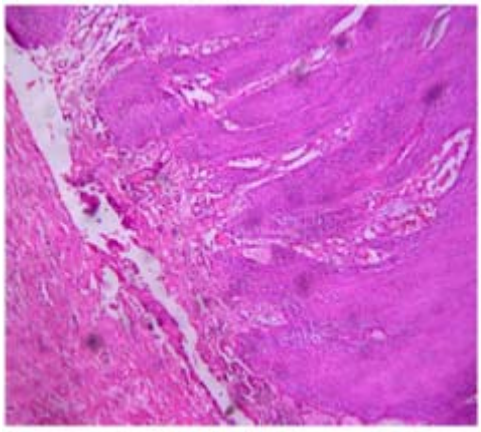


Figure 2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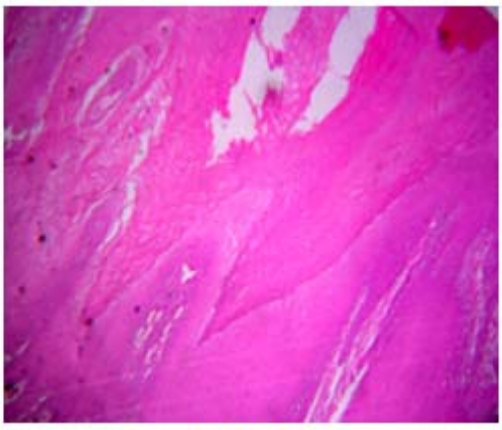
Figure 4

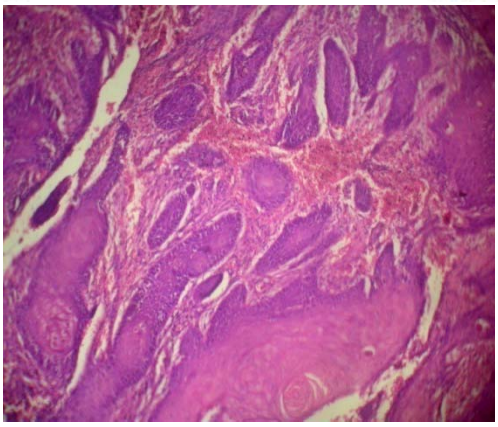
Figure 5

Figure 1: Shows white fungating, exophytic growth with ulcerations was observed on the left buccal mucosa extending from reteromolar area to corner of mouth
Figure 2: Shows epithelium with broad, bulbous reteridges with pushing margins
Figure 3: Shows broad, bulbous reteridges invading into the deep connective tissue stroma
Figure 4: Shows parakeratin plugging
Figure 5: Tumor cells showing marked cytological atypia, compatible with conventional squamous cell carcinoma