Verrucous Carcinoma: A Case Report

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ABSTRACT

Verrucous carcinoma is a low-grade variant of squamous cell carcinoma (SCC). It is an entity distinct from SCC of the oral cavity because of its unique biologic behavior. It most commonly affects the oral cavity with buccal mucosa being the commonest affected site. Clinically, it has the proliferative cauliflower-like appearance that is a significant factor in its diagnosis. It is more common in tobacco chewers, smokers, and snuff consumers. Though verrucous carcinoma is a benign lesion with minimum aggressive potential but long-standing cases, have shown transformation into SCC. Therefore, early diagnosis and surgical excision of the lesion is the most appropriate treatment modality for verrucous carcinoma. In this study, we discuss a case of 75-year-old male with verrucous carcinoma of left buccal mucosa.

Keywords: Oral cavity, Oral squamous cell carcinoma, Verrucous carcinoma, Verrucous hyperplasia, Verrucous papilloma

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INTRODUCTION

Verrucous carcinoma is a rare tumor first described by Ackerman.¹ Names used in the literature to describe this entity, include Ackerman’s tumor, Buschke–Loewenstein tumor, oral florid papillomatosis, epithelioma cuniculus, and carcinoma cuniculatum.² It appears as a painless, thick white plaque resembling a cauliflower. The most common sites of oral mucosal involvement include the buccal mucosa, followed by the mandibular alveolar crest, gingiva, and tongue. Tobacco chewing is a significant etiological factor for its development. Lesions often develop at the site where the tobacco is placed habitually. These are the same factors that predispose individuals to the development of premalignant lesions such as leukoplakia, submucous fibrosis (SMF), and erythroplakia.³

Shear and Pindborg⁴ described a condition termed verrucous hyperplasia in 1980. Both lesions have similar resemblance clinically and pathologically. Verrucous hyperplasia has been considered a predecessor stage of verrucous carcinoma and is believed to have the same biological prospective behavior.⁵,⁶ 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 which either irradiation or surgery alone is performed.⁷

Here, we present the case report of 75-year-old male.

CASE REPORT

The 75-year-old male patient (Figure 1) reported to our college with a chief complaint of a growth on the left side of mouth since 1 year. The patient noticed a small, painless growth over the left buccal mucosa 1 year back.

Figure 1: Clinical picture of the case
which gradually grew to the present size. The patient had a history of tobacco chewing with slaked lime since 10 years, one packet daily 7-8 times/day. He used to keep the contents in the lower left buccal vestibule for 10 min following which he used to spit them out. The patient gave no relevant medical or family history.

On general examination, patient had normal gait and posture and was well-oriented, conscious, and average built. No evidence of pallor, icterus, cyanosis, and clubbing was present. Regional lymph nodes were non-palpable and non-tender.

On local examination, the patient was completely edentulous and on inspection - intraorally there was a presence of single cauliflower like growth seen on the left side of the buccal mucosa extending anteriorly from the corner of the mouth to posteriorly up to retromolar area and superiorly 1 cm above the line of occlusion to inferiorly up to the buccal vestibule. The lesion was approximately 6 cm × 3 cm in size, well-defined with irregular margins. The Surface of the lesion was irregular and cauliflower-like in appearance. The color of the lesion varied from pink in the periphery to frank white in the center (Figure 2). On palpation, findings of inspection size, site, surface, and shape were confirmed. The lesion was tender and elevated from adjacent mucosa with irregular and firm margins. Taking into consideration the clinical examination, a provisional diagnosis of verrucous carcinoma of left buccal mucosa was given. Differential diagnosis of squamous papilloma and verrucous hyperplasia was given. Complete blood count, random blood sugar level revealed no abnormality, so an incisional biopsy of the lesion was performed.

**Histopathology Report**

H and E section of the submitted tissue showed stratified squamous para keratinized epithelium that was hyperplastic in nature with its down growth into the cellular connective tissue. The proliferating epithelium showed pushing rete pegs into the connective tissue. Numerous cleft-like spaces were seen with para keratin plugging within them (Figure 3). The epithelial cells exhibited increase in the basal cell layer, some cells exhibited pleomorphism, and few keratin pearls (Figure 4a and b). The underlying connective tissue was scanty and showed infiltration of inflammatory cells and few endothelial lined blood vessels. Incisional biopsy revealed features of verrucous carcinoma.

Furthermore, a complete excision of the lesion was planned. The histologic features on excisional biopsy revealed stratified squamous para keratinized epithelium that was hyperplastic and proliferative in nature with exophytic growth pattern (Figure 5a).

The exophytic growth pattern has been with pushing margins and an intact basement membrane (Figure 5b). Para keratin plugging has been noted at places. The epithelial cells exhibited dysplastic features such as an increase in the basal cell layer, cellular pleomorphism, mitotic activity (Figure 5c), keratin pearls (Figure 5d), and individual cell keratinization (Figure 6). The underlying connective tissue showed infiltration of numerous darkly staining inflammatory cells and few endothelial lined blood vessels. Areas of necrosis have been noted at some places. The deeper portion of the
connective tissue revealed muscle tissue cut transversely and minor salivary gland acini. This was suggestive of an adequate depth biopsy (Figure 7). Diagnosis of verrucous carcinoma has been confirmed on excisional biopsy.

**DISCUSSION**

Verrucous carcinoma most frequently involves the oral cavity, where it commonly arises from buccal mucosa and lip. It is considered a slowly growing neoplasm
that can reach considerable size before being brought to medical attention. It appears as a papillary non-ulcerated gray-white or red mass with a very broad base of attachment. Verrucous carcinoma most commonly affects elderly male with adverse habits of tobacco and alcohol. The present case is of an elderly male with a thick cauliflower-like growth in his left buccal mucosa that histologically proved to be a verrucous carcinoma. Lesions often develop at the site where the tobacco was placed habitually. Association of Human Papilloma Virus infection and verrucous carcinoma has been proved in various studies. Other etiologic factors include poor dental hygiene, ill-fitting dentures, low socioeconomic status, tobacco chewing, snuff usage, alcohol, and smoking. These factors also predispose individuals to the development of premalignant lesions such as leukoplakia, SMF, and erythroplakia. Verrucous carcinomas are mostly large, exophytic, soft, fungating growth with a pebbly surface having locally destructive nature. Enlarged lymph nodes are often palpable and reactive. Histopathological diagnosis of verrucous carcinoma is difficult, and reporting needs diagnostic skills. The term “verrucous” was applied for lesions showing keratotic exophytic surface composed of blunt epithelial projections with keratin-filled invaginations (plugging) and without obvious fibrovascular cores. The histological features of verrucous carcinoma, such as verrucous surface and “elephant feet” like down growth compressing the underlying connective tissue and showing minimal or absent cytological atypia, are widely known. Because it is cytologically benign, the focal basal cell nuclear hyperchromatism, distinction from verrucous carcinoma and verrucous hyperplasia cannot be based only on cytologic features. Differential diagnosis of verrucous carcinoma includes (i) squamous cell carcinoma showing verrucous features, (ii) Proliferative verruice leuokplakia, (iii) epithelial hyperplasia, (iv) pseudoepitheliomatous hyperplasia, (v) Verruca Vulgaris, (vi) keratoacanthoma when verrucous carcinoma affects cutaneous sites. According to literature, the best treatment modality for verrucous carcinoma is surgical resection of the tumor. This patient was also advised for surgical removal of the lesion and regular follow up. Though verrucous carcinoma does not show distant metastasis and is mostly associated with reactive lymphadenopathy. It has been reported to erode the margin of the mandible, but narrow infiltration is rare. Radiotherapy has been contraindicated in the treatment of verrucous carcinoma as radiation-induced anaplastic transformation. As the literature is unclear, it is retained that radiotherapy could be used only in selected clinical settings when surgery is not possible.

CONCLUSION

In most of the cases, verrucous carcinoma, verrucous hyperplasia, and verrucous keratosis are clinically indistinguishable from each other, so histopathological evidence is necessary to give an appropriate diagnosis. Verrucous carcinoma presents as a thick warty keratotic lesion that is more common in males and is usually painless or asymptomatic. In our case, we present a male with painless, warty, exophytic lesion of left buccal mucosa histopathologically proven as verrucous carcinoma. Verrucous carcinoma associated with leukoplakia or SMF may be an indication of “field cancerization” and can lead to multiple recurrences, so it is highly suggestive, that such patients be kept under regular follow-up.

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