Oral Squamous Papilloma: Unusual Size and Review of Literature

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Abstract

Oral squamous papilloma (OSP) specifies the non-neoplastic proliferation of stratified squamous epithelium giving rise to a verruciform or papillary growth on the surface of the oral cavity. Usually asymptomatic, OSP presents as soft tissue growth of the oral cavity exhibiting various clinical manifestations. Human papillomavirus (HPV) commonly HPV types 6 and 11 are believed to be the causative agents even though not detected in some lesions. Found in 4 of every 1000 individuals OSP ranks fourth among the common oral mucosal mass. It has equal predilection for both male and female and occurs within the age group of 30 to 50 years. Its clinical appearance imitates exophytic carcinoma, verrucous carcinoma or condyloma acuminatum raising concern amongst the patient as well as the dental surgeon. OSP measures up to one centimetre or so in diameter, but here we present a case where the lesion measures up to 5 centimetres in diameter along with review of literature.

Keywords: *Oral squamous papilloma, human papillomavirus, exophytic growth, koilocytes.*

Introduction

Oral squamous papillomas are generally benign, asymptomatic, exophytic growth in the oral cavity present in the form of numerous small finger-like projections which results in roughened, verrucous or cauliflower-like surface. Human papillomavirus (HPV) commonly incriminated as the causative agents in skin warts are mostly related to its pathogenesis. HPV type 6 and type 11 are commonly associated but have failed to be demonstrated in oral malignancies.[1-4]

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The World Health Organisation (WHO) has defined papilloma as "a range of localized hyperplastic exophytic and polypoid lesions of the hyperplastic epithelium with a verrucous or cauliflower-like morphology".[5]Among the most common oral mucosal masses squamous papilloma ranks fourth. It is found in 4 of every 1000 individuals[4] and is frequently seen between the age group of 30 to 50 years [1]. Hormonal changes, deficiency in the diet, smoking and secondary residing infections influence the occurrence of these lesions[6]. Commonly affects the soft palate tongue and occasionally seen on the vermilion border of the lip and uvula.[1,2,7] Size of oral squamous papilloma commonly measures from few millimetres to one centimetre but bigger size lesion has also been documented in the literature.[8-10]

Ideal treatment is excision or laser ablation with the base of the mucosa into which the stalk or pedicle of the papilloma is inserted. Electrocautery, cryosurgery and injections of interferon into the lesion are some of the other treatment techniques. Frequently recurs in patients

infected with human immunodeficiency virus (HIV) else if properly excised recurrence is rare.[7] Though HPV lesions are infective, squamous papilloma appears to have very low virulence and infectivity.

In this article, we are presenting a case of Oral Squamous Papilloma with an unusual size and clinical looks mimicking carcinoma, along with review of the literature.

Case Report: 65-year-old male patient reported to the department with the chief complaint of an ulcerated growth in the left buccal mucosa. The ulcerated growth extended from the commissure of the lip till the retromolar area. The lesion has been present for 6 months. The patient gives a history that the lesion started as an asymptomatic slowly enlarging soft tissue mass eventually reaching the present size. As the lesion enlarged there was intermittent pain, discomfort and interference while chewing. The past medical and dental history of the patient is not significant. The patient was well oriented with no significant general findings and the extra-oral examination was also non-contributory. The patient has a habit of tobacco chewing from 20 to 25 years.

Intraoral examination revealed a big size exophytic lesion in the left buccal mucosa extending from the lip commissure till the retro-molar area not involving the sulcus. The lesion was pink and white in colour, sessile in nature with pebbled surface and papillary projections at places. The lesion measured approximately 5x2 cm and well-circumscribed [Figure 1]. The lesion was firm in consistency and there was bleeding on palpation. The submandibular lymph nodes on the left side were palpable and tender.

Based on the history given by the patient and clinical features a provisional diagnosis of verrucous carcinoma and carcinoma of the left buccal mucosa were given.

Under local anaesthesia,an incisional biopsy of the lesion was done along with the submucosa to a depth of one millimetre and sent for histological examination. Histological examination showed stratified squamous epithelium thrown as finger-like projection towards the surface with long slender fibro-cellular connective tissue core reaching very high in it [Figure 2]. Very few cells resembling koilocytes are seen in the stratum spinosum [Figure 3]. Minimal amount of chronic inflammatory cells are diffusely arranged in the moderately vascular connective tissue stroma. Histological picture was compatible with squamous papilloma. Excision biopsy was done with surgical removal of the lesion in toto along with the submucosa to a depth of one millimetre. Histological picture of the excisional biopsy again confirmed oral squamous papilloma.

The uniqueness of this case report is the size of the lesion which is unusually big and its clinical look mimics a malignant lesion. Literature says maximum size that a papilloma reaches is up to 0.5 cm with no subsequent alterations. However oral papilloma measuring up to 3 cm has also been reported[10]. In our case, the lesion is about 5 cm in its maximum length which is first of its kind to be reported. Though the look of the lesion is deceiving but both incisional and excisional histopathological report confirmed the lesion to be benign and oral squamous papilloma.

Discussion and review of literature: A papilloma (plural: papillomas or papillomata) is defined as a small firm non-neoplastic growth of the epithelium with a well-defined boundary that extends out above the neighbouring tissue[11]. The generic term *oral squamous papilloma* specifies a benign proliferation of stratified squamous epithelium giving rise to a verrucous exophytic growth or papillary growth on the oral mucosal surface with minimal amount of connective tissue core.

Aetiology: Oral squamous papilloma was first described by Tomes in 1848 as a wart limited to the gum and Human Papillomavirus (HPV) type 6 and 11 are the causative agents. They have low infectivity rate and are less virulent which is why squamous papillomas are always benign. The pathogenesis in the development of papilloma lies in that the double-stranded DNA of the virus merges with the host DNA.

Incidence and Occurrence in Oral Cavity: The incidence rate of SP is 4th among all the mucosal growths in the oral cavity and 1 in every 250 people exhibit oral squamous papilloma. Oral squamous papillomas make 3 to 4% of all the oral soft tissue biopsies and are most commonly seen within the age group of 30-50 years. Males and females are equally affected. Some literatures have documented OSP among children and it constitutes 7 to 8% of all oral mucosal growths. Whites are more affected than the black population. Generally, the lesion appears on the tongue, soft and hard palate, gingiva, buccal, labial or lingual mucosa and near uvula too.Oral squamous papilloma is the most common of all the soft tissue growths arising in the soft palate.[12,13] There are

certain notable differences between papillomas arising in the other body parts and papillomas of the oral cavity. Though benign OSPs have a higher neo-plastic potential compared to other papillomas if not properly excised they have a relatively higher frequency of occurrence and recurrence compared to other papillomas.[14,15]

Clinical features: Clinically OSP often is a solitary lesion presenting itself as an exophytic soft-tissue growth with a verrucous, roughened or cauliflower or wart-like surface. There are presence of many papillary projections on the surface or maybe blunted. The lesion is occasionally sessile and often pedunculated and has well-defined border. Depending upon the amount of keratinisation the lesion appears pink or white and is usually asymptomatic. Presence of trauma imparts red colour to the lesion. Generally size of the papillomas ranges from a few millimetres to less than one centimetre but big size papillomas have also been documented.[8-10]

Clinical Differential Diagnosis: When oral squamous papilloma is a single solitary lesion differential diagnosis includes *papillary hyperplasia, condyloma acuminatum* and *verruciform xanthoma.*[10] Gingiva and alveolar ridge is the specific site of occurrence for verruciform xanthoma. A causal-and-sequence relationship (for example: pathology under an ill-fitting denture) is blatant in *inflammatory papillary hyperplasia*. Condyloma will be bigger than the papilloma with a wider base and colour will be from pink to red due to lesser keratinization. Multiple squamous papillomas specify *focal epithelial hyperplasia (Heck disease*).[7] The other lesions suggested in the differential diagnosis include *nevus unius lateris, acanthosis nigrans, focal dermal hypoplasia (Gorlin-Goltz syndrome)*.

Histopathology: The histological description of squamous papilloma is a non-neoplastic proliferative exophytic or verrucous tumour which is lined by *stratified squamous epithelium* with organised stratification and showing acanthosis. Histopathological archetype put forward by Oliveria et al comprises papillary-like outgrowth of stratified squamous epithelium with usual maturation of cells and epithelium showing hyperparakeratosis. There is presence of Koilocytosis in which the cells of the spinous layer show perinuclear cytoplasmic vacuolisation and pyknosis. Occasionally basilar hyperplasia is noticed. The connective tissue stroma is fibrovascular and presence of mild degree of inflammation.[8,16,17]

Laboratory Diagnosis: Electron microscopic analysis can detect the viral particles. Immunohistochemistry, in situ hybridization and polymerase chain reaction (PCR), are the other laboratory techniques for identification of the virus.

Immunohistochemistry: There is over expression of *Tumor protein (TP53), Proliferating cell nuclear antigen (PCNA), Cell-surface glycoprotein (CD-44 involved in cell-cell interactions, cell adhesion and migration)* and*B-cell lymphoma 2)Bcl-2)* in case of neoplastic alteration and papillomas with epithelial dysplasias.[18]

Treatment: The ideal treatment is complete surgical extirpation of the lesion along with one-millimetre clearance around the base and one-millimetre depth into the submucosa. Very small sized squamous papillomas are excised using Liquid nitrogen and Lactic acid having keratinolytic constituents.[19]

Figure 1: clinical presentation intra-oral: exophytic lesion in the left buccal mucosa extending from the lip commissure till the retro-molar area

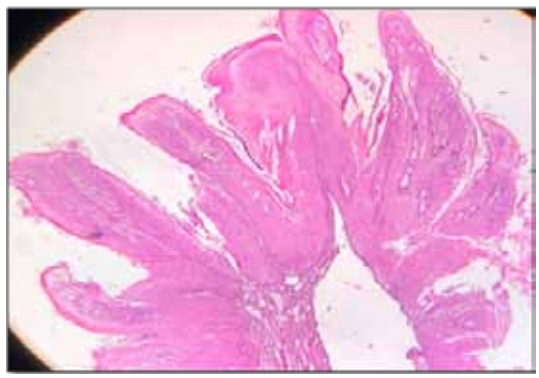

Figure 2: photomicrograph 4x: illustrates many finger like projections each made up of a continuous layer of stratified squamous epithelium and containing a thin, central connective tissue core

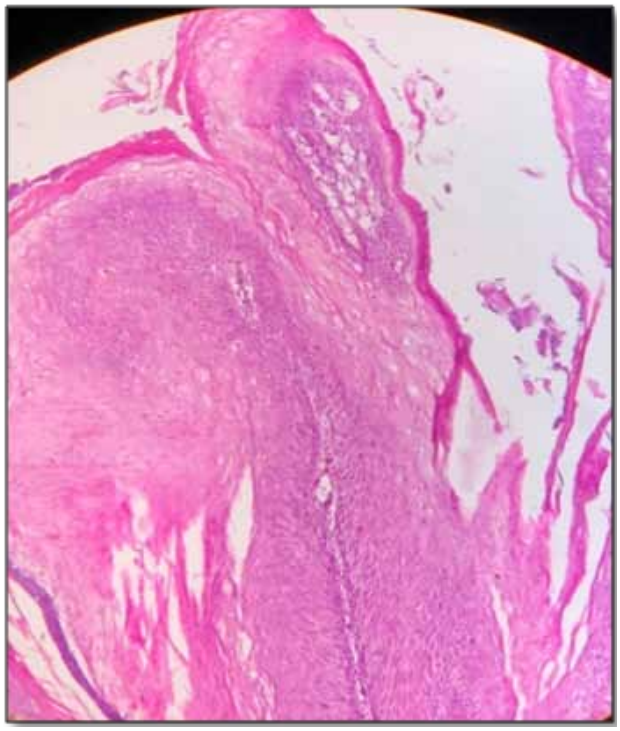

Figure 3: photomicrograph 10x: presence of hyperkeratosis, proliferation of spinous layer in a papillary pattern

Conclusion

The size and clinical features of papilloma presented here is very rare and mimics malignant lesion of the oral cavity through histological features confirmed otherwise. Papillomas in other regions have shown neoplastic transformation hence the potential neoplastic nature of squamous papilloma should be researched and explored.

Conflict of Interests: None

Ethical Permission: Approved

Funding: Nil

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