

Squamous papilloma on buccal mucosa in a pediatric patient: A case report

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Abstract: Oral squamous papillomas are benign proliferation of stratified squamous epithelium resulting in exophytic lesions found most commonly on the tongue, lips, gingiva and palate, particularly the area adjacent to the uvula. The causative organism is Human Papilloma Virus (HPV) and it raises concern because of its clinical appearance. Even though these lesions commonly occur between third and fifth decade of life, they can occur before the age of 10 years. This case report presents a case of 11 year-old female patient who reported with a papillary lesion on the right buccal mucosa.

Case presentation: A 11 year-old female patient presented with a papillary lesion on the right buccal mucosa since 3 months.

Management and prognosis: The preferred treatment of choice is surgical excision due to its lower recurrence rate. Laser ablation, electrocautery, intralesional injections of interferon, cold-steel excision, and cryosurgery have all been used as alternative modalities of treatment.

Conclusion: Oral squamous papillomas are benign epithelial neoplastic lesions, is associated with HPV. It is less common in children, but can raise concern and apprehension among parents due to its appearance.

Keywords: Human papilloma virus, Oral squamous papilloma, Surgical excision

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I. Introduction

The oral squamous papilloma is a benign tumor of epithelial tissue origin. It is the fourth most common oral mucosal mass with incidence of 4:1000 cases per year and accounts for 3-4 % of all biopsied oral soft tissue lesions.¹ Human papilloma virus (HPV), usually HPV – 6 and HPV – 11 are the causative factor of oral squamous papilloma. They are exophytic growth made up of numerous small finger like projections, that result in a lesion with a roughened, verrucous or 'cauliflower-like' surface.² They are often asymptomatic and slow growing commonly seen on the tongue soft palate and gingiva.³ They affect adults mainly between the third to fifth decades of life and relatively rarely before the age of 10 years.⁴ They also account for 8% of all oral tumors in children.⁵ Squamous papilloma is traditionally classified as isolated–solitary and multiple-recurring, with the latter being more commonly found in children.⁴ Surgical removal is the treatment of choice either by excision or laser ablation. Other treatment modalities are cryotherapy with liquid nitrogen or cryoprobe, cold steel excision, electrocautery and intralesional injections with interferon.⁶ Recurrence is relatively uncommon giving the treatment an excellent prognosis.

II. Case report

A 11 year old female patient reported to the Department of Pediatric and Preventive Dentistry, PSM College of Dental sciences and Research, Thrissur, Kerala with a chief complaint of white growth on the right cheek region. Patient noticed a small growth 3 months back, which progressively increased to attain the present size. It was associated with mild pain while having spicy food. The patient's past medical and dental history were insignificant with no positive family history. On intra oral examination, two small white colored finger like projections measuring 1cm × 1cm in size were seen on the right buccal mucosa opposing to the lower canine

region. On palpation, the lesion was firm in consistency, irregular in shape with roughened surface, non tender, freely movable and showed no signs of bleeding, ulceration, pain or parasthesia. The patient had no other significant extra oral findings or deleterious habits.

A provisional diagnosis of squamous papilloma was made and an informed consent was taken from the parents for the procedure. Local anaesthesia was infiltrated around the lesion and an elliptical excision was performed with Number 15 blade, which was then completely excised from its base and sutures were placed.

Histopathological examination of the lesion revealed a hyperplastic para keratinized stratified squamous epithelium with few papillary projections on the surface enclosing vascular connective tissue cores suggestive of squamous papilloma. Follow up was done at regular intervals to check the postoperative healing and recurrence (1 week, 3 months, 6 months). Soft tissue observations after the follow up showed healthy tissue with no recurrence.

III. Discussion

HPV infections of the skin are common, and most individuals are probably infected with 1 or more HPV types at some point in their life. There are no animal reservoirs for HPV; all transmission is presumably from person to person.⁷ Low-risk HPV types 6 and 11 are most commonly associated with squamous papilloma and are rarely found isolated in malignant lesions. High-risk HPV types like HPV16 and 18 are those types that are associated with anogenital cancers, specifically cervical cancer.⁷

Intraorally, oral squamous papillomas are generally asymptomatic although Devi *et al.*⁸ and Goodstein *et al.*⁹ reported two cases of a squamous papilloma of the uvula that showed symptoms. Babaji *et al.*⁴ reported a case of squamous papillomas of hard palate showing cauliflower like exophytic growth on hard palate. The present case showed multiple – recurring type of squamous papilloma, corroborating the literature.⁴

Histologically Squamous papilloma presents as many long, thin and finger-like projections extending above the mucosal surface. Each finger-like projection is lined by stratified squamous epithelium and contains a central connective tissue core. The spinous cells proliferate in a papillary pattern and koilocytes-HPV altered cells may be observed. The presence of chronic inflammatory cells may be variably noted in the connective tissue.² In the present case, a final diagnosis of squamous cell papilloma was made based on the clinical presentation and histopathological report. Apart from routine histopathological tests, enzyme linked immunosorbent assay and polymerase chain reaction (PCR) test¹⁰ can be performed to detect the presence of virus

The differential diagnosis for solitary oral squamous papilloma includes verruciform xanthoma, papillary hyperplasia, condyloma acuminatum and Heck's disease (Focal epithelial hyperplasia) for multiple squamous papilloma.¹¹ Verruciform xanthoma may resemble oral squamous papilloma, although the lesion has a distinct predilection for gingiva and alveolar ridge. While papillary hyperplasia showed cause and effect relationship to it.⁶ The condyloma would be larger than papilloma, with a broader base and would appear pink to red as a result of less keratinization. Oral squamous papilloma is associated with cowdens syndrome¹².

Treatment of the papilloma consists of excision, including the base of the mucosa into which the pedicle or stalk inserts. Surgical excision is the preferred treatment of choice due to its lower recurrence rate.⁴ Laser ablation, electrocautery, intralesional injections of interferon, cold-steel excision, and cryosurgery have all been used as alternative modalities of treatment. The laser assisted surgery has several advantages such as excellent hemostasis, high precision in tissue destruction, devoid of sutures, wound sterilization and minimal post-operative pain and edema.^{13,14} No pain medication was required after excision operation, and wound healing was notable and rapidly achievable. Minimal post-operative pain and rapid wound healing advantages^{13,14} of the laser assisted surgery may provide tolerable procedure for pediatric patients to remove the masses like oral squamous papilloma. Traditional electrosurgical techniques (EC) have been presumed to cause more pain and inflammation.¹⁵ Local intralesional interferon administration has been used in treating viral diseases such as condyloma acuminata and verruca vulgaris. It boosts the immune system to recognize the antigen via the delayed hypersensitivity reaction and subsequently clearing the HPV.¹⁶ In cryotherapy, it kills all the cells in a diseased target area while producing minimal injury to the surrounding healthy tissue. Bleeding during and after surgery is greatly reduced due to rapid thrombosis of the capillary vasculature.¹⁷ Intralesional MMR immunotherapy perhaps employs the ability of the immune system to recognize viral antigens that induces a delayed-type hypersensitivity reaction not only to the antigen but also against the HPV, thereby increasing the ability of the immune system to recognize and clear HPV.¹⁸ Immunotherapy using intralesional MMR vaccine has been found useful in treating common warts particularly in children.¹⁹

The site of surgical excision showed good healing with no scar formation and on subsequent recall visits, the child showed no signs of recurrence after 6 months.

IV. Conclusion

Oral squamous papillomas are benign epithelial neoplastic lesions is associated with HPV. Differentiating papillomas from other lesions are important. It is less common in children, but can raise concern and apprehension among parents due to its appearance. Hence early diagnosis and accurate treatment should be performed.

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V1. Figures



Photograph showing finger like projections on the right buccal mucosa

Photograph showing immediately after excision



Excised tissue of squamous papilloma



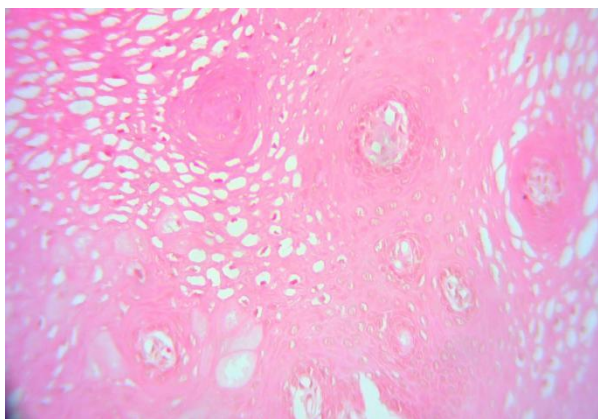
Buccal mucosa after 1 week of excision



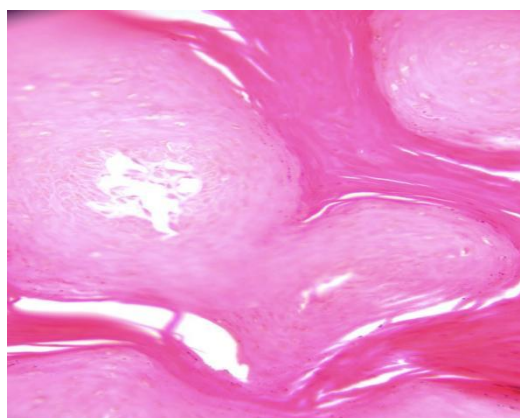
Buccal mucosa after three months of excision showing complete healing



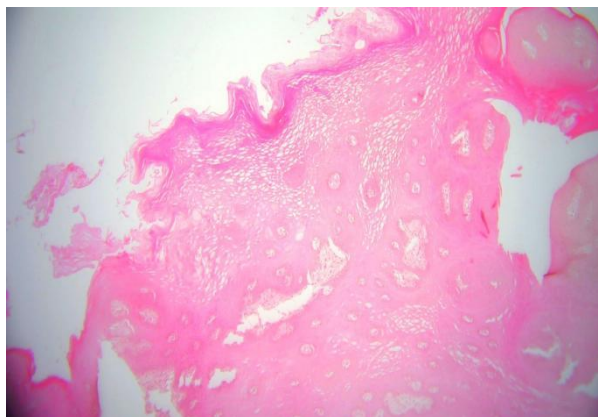
Buccal mucosa after 6 months of excision showing no recurrence



Photomicrograph of H and E stained section showing perinuclear vacuolization and pyknotic nuclei of superficial epithelial cells (original magnification X 400)



Photomicrograph of H and E stained section showing epithelial keratinization and vascular connective tissue core (original magnification X 400)



Photomicrograph of H and E stained section showing vacuolization of superficial epithelial cells (original magnification X 100)

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