



# **Squamous Cell Papilloma on the lip: A Rare Case Report**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **Case Report**

## **ABSTRACT**

Squamous cell papilloma, is a benign, soft, cauliflower-like growth caused due to the rapid proliferation of the stratified squamous epithelium in the oral cavity. Its etiology is not exactly known but it is generally associated with infection Human Papilloma Virus (HPV), trauma /irritation, Immunocompromised status, lifestyle, and habits (tobacco use, alcohol consumption, etc.), poor diet and psychological factors. It predominantly occurs in middle age and in can also be seen in children accounting to 8% of all oral tumours in children. This case report sheds light on one such case of a 14 -year female patient with a white growth on the upper lip.

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**Keywords:** Benign tumor; Squamous papilloma; oral papilloma; human papilloma virus.

## 1. INTRODUCTION

Squamous papilloma is a benign epithelial lesion characterized by hyperplastic proliferation of squamous epithelium, often induced by human papillomavirus (HPV) infection. It commonly manifests as exophytic, cauliflower-like growths in various anatomical locations, including the oral cavity, upper respiratory tract, anogenital region, and skin with predilection for tongue and soft palate. While typically asymptomatic, squamous papillomas can present diagnostic challenges due to their diverse clinical presentations and histopathological features. Understanding the epidemiology, etiology, clinical manifestations, and diagnostic approaches to squamous papilloma is crucial for accurate diagnosis and appropriate management. This case report aims to provide an overview of squamous papilloma, highlighting its clinical significance, diagnostic considerations, and management strategies.

## 2. CASE-PRESENTATION

A 14-year-old female patient presented to our department (Department of Pediatric and Preventive Dentistry, Sri Siddhartha Dental college, Tumkur with a chief complaint of a small, white, soft growth on the inner corner of her left upper lip, which she had noticed for the past year. The growth had gradually increased in size to its current dimensions of 1.5 × 1.3 cm. The patient reported that the growth was painless and denied any associated symptoms such as rapid growth, paresthesia, or numbness, burning sensation, no history of ulceration or bleeding. She also denied any habitual behaviors like lip biting, lip picking.

During history-taking, the patient denied any harmful habits such as, smoking, tobacco chewing, alcohol consumption, or intravenous drug abuse. The marital status of the patient is unmarried and she gave no history of sexual activity and no signs of sexual abuse were observed. Patient reached her menarche at the age of 13 and reports regular menstrual cycles. She also reported no relevant family medical history. Additionally, there were no other similar growths elsewhere on her body.

Upon inspection, a single, cauliflower-like growth was observed near the left upper lip commissure. The lesion appeared white, soft in consistency, and non-tender upon palpation. There were no signs of inflammation or ulceration. The patient's hard tissue examination revealed normal permanent dentition with no evidence of dental caries or gingival abnormalities.

Based on clinical findings, a provisional diagnosis of oral squamous cell papilloma was made with the differential diagnosis of Verruca Vulgaris, due to its cauliflower like surface and Fibroma, due to painless and slow growing nature were made. The decision was made to perform an excision biopsy of the growth under local anesthesia to confirm the diagnosis and assess for any underlying pathology.

The excision biopsy was performed successfully, and the specimen was sent for histopathological examination. Postoperative care was uneventful, and the patient was discharged with instructions for follow-up.



**Fig. 1. Squamous cell papilloma present on the left upper lip**



**Fig. 2. Intra-oral image of the lesion**



**Fig. 3. Surgical excision done**

Histopathological examination of the excised tissue confirmed the diagnosis of squamous papilloma, ruling out any malignant features. The patient was followed up for a year and remained asymptomatic, with no signs of recurrence noted.

### **3. HISTOPATHOLOGICAL REPORT**

The histopathological report revealed that numerous epithelial proliferations were seen in the form of finger like projections that were lined

by stratified squamous Para keratinized hyperplastic epithelium with basal cell hyperplasia and acanthosis, which also showed hyperkeratosis. The epithelial proliferation contains the central connective tissue core showing blood vessels and few collagen fibers align with few fibroblasts. Few lymphocytes are also seen in the connective tissue stroma. Confirming the diagnosis as squamous cell papilloma.

#### 4. DISCUSSION

Squamous cell papilloma is an exophytic mass of the oral cavity, mostly benign and asymptomatic caused by proliferation of stratified squamous epithelium due to its capacity to invade the nuclei of the spinous layer. Its etiology is unknown but its pathogenesis is said to be related to human papilloma virus (HPV) types 6, 11 (low-risk), 13, 23, 16, 18, 31, 33 (high-risk), trauma/irritation, immunocompromised status, lifestyle, and habits (tobacco use, alcohol consumption, etc.), poor diet and hydration or even psychological factors [1].

The Papilloma's are commonly found in various locations in humans like oral mucous membrane predominantly in hard and soft palate, uvula, brain, urinary tract, larynx, skin, breast etc. They can be classified as isolated/solitary or recurrent multiple, based on their occurrence [1-3].

The recurrence of this lesion can generally occur before 15 months follow-up.

The various differential diagnosis of oral squamous cell papilloma includes [1,4].

- a) **Verruca vulgaris (common wart):** It appears as a rough, raised, cauliflower-like growth, occurring on skin of hands and fingers, oral mucosa.
- b) **Fibroma:** It occurs due to chronic irritation or trauma as a firm, smooth, dome-shaped nodule that are painless and slow-growing.
- c) **Condyloma Acuminatum (Genital wart):** These are often associated with sexual transmission and appear as soft, fleshy, cauliflower-like lesions.
- d) **Pyogenic Granuloma:** These are seen as red, soft, highly vascular growths that bleed easily caused due to trauma or irritation.
- e) **Herpes Simplex virus (Cold sore):** HSV-1 causes oral herpes which is painful, fluid-filled vesicles that rupture to form ulcers.
- f) **Mucocele:** This bluish, soft, fluctuant, swelling is caused due to the blockage or rupture of minor salivary duct.

The squamous cells can undergo malignant transformation related to UV exposure, chronic irritation, or tobacco use and form firm ulcerated rough scaly surfaces with bleeding or crusting called Squamous Cell Carcinoma (SCC) or Epithelial Dysplasia where cells show abnormal morphology and loss of differentiation or

Carcinoma in situ where the malignant cells are yet to invade the deeper layers of the tissue [5,6].

**The various tests for Squamous Cell Papilloma in Children are:**

- A) **Histopathological Examination:** Carneiro et al strict criteria includes finger – like projections, normal maturation pattern, presence of hyper parakeratosis in epithelium [2].
- B) **HPV Testing:** Testing for HPV DNA within the lesion can provide valuable information regarding the viral subtype and guide treatment decisions. PCR or in situ hybridization techniques may be employed for HPV testing.
- C) **Follow-up:** Regular follow-up examinations are essential to monitor for recurrence or any signs of malignant transformation. Children with squamous papilloma's should undergo periodic clinical evaluations to ensure early detection and prompt management of any recurrent or new lesions.

**Treatment of Squamous Cell Papilloma in Children can be done by**

- a. **Surgical Removal:** Surgical excision is the primary treatment for squamous papilloma's in children. This involves removing the lesion along with a margin of healthy tissue to ensure complete removal. The procedure can be performed under local or general anesthesia, depending on the child's age and the size and location of the lesion
- b. **Laser Ablation:** Laser-assisted excision using CO<sub>2</sub> or potassium titanyl phosphate (KTP) lasers may be considered, especially for lesions in anatomically sensitive areas or when precise tissue removal is necessary. Laser ablation offers benefits such as bloodless surgery, minimal scarring, and faster healing
- c. **Cryotherapy:** Cryosurgery involves freezing the lesion using liquid nitrogen or a similar cryogenic agent. Cryotherapy can be effective for small, superficial lesions and is relatively less invasive compared to surgical excision.
- d. **Electrocautery:** Electrocautery uses an electric current to remove the lesion by burning or cutting it. While effective, caution must be exercised to prevent damage to surrounding healthy tissue.

- e. Intralesional Interferon Injections: In some cases, especially if there is a high risk of recurrence or if the lesion is associated with HPV infection, intralesional injections of interferon may be considered. Interferon helps boost the immune response and may aid in controlling viral replication.

Other methods are Radiofrequency Ablation (RFA), Photodynamic therapy (PDT).

According to center for disease control and prevention, the maximum effectiveness of vaccine against HPV is at 9-12 years of age. Some of the commonly used vaccines are Cervix (HPV 16-18) and Gardasil (HPV 6,11,16,18,19) for the prevention of future benign and malignant HPV-related infections [2,3].

For the medical management of Papilloma, Methotrexate (intralesional) 2mg/ml, 10-25% Podophyllin resin (weekly once for 4 weeks), 5% Imiquimod cream (3 times /week for 16 weeks), Cidofovir (sub lesional) 12.5mg, etc. can be prescribed [7-9].

## 5. CONCLUSION

In conclusion, squamous papilloma, a benign soft tissue growth linked to HPV 6 and 11, is often detected incidentally during clinical examinations. These growths, appearing as sessile, cauliflower-like lesions, notably on the hard palate, necessitate timely treatment. Proper diagnosis through detailed history-taking and clinical examination is imperative, alongside patient education regarding the necessity of lesion excision. Recurrence rates are low, barring cases of immunocompromised patients, such as those with AIDS. Vigilant management and follow-up are advised to mitigate potential complications associated with these lesions.

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

## CONSENT

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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