



Case Report

Squamous papillomatosis of gingiva in a 13-year-old patient: A case report

Harpuneet Kaur^{1*}

¹National Dental College & Hospital, Dera Bassi, Punjab, India



ARTICLE INFO

Article history:

Received 19-07-2024

Accepted 08-08-2024

Available online 14-09-2024

Keywords:

Benign

Gingiva

Human papillomavirus

Squamous cell papilloma

Oral lesion

ABSTRACT

Oral squamous papilloma (OSP), the fourth most frequent mucosal tumour, accounts for roughly 3–4% of all biopsied lesions. A papillary exophytic mucosal tumour that is caused by benign stratified squamous epithelium proliferation characterises this disorder clinically. These lesions typically appear between the ages of 30 and 50, while they can occasionally appear as early as 10 years old. 8% of all oral tumours in children are OSPs. Here, we present a case report of squamous papilloma of gingiva in a paediatric patient. Benign, gingiva, human papilloma virus, squamous cell papilloma, oral lesion, paediatric, oral cavity

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

The fourth most frequent mucosal tumour, oral squamous papilloma (OSP), makes about 3–4% of all biopsied lesions. Clinically, this condition appears as a papillary or verrucous exophytic mucosal mass as a result of benign stratified squamous epithelium proliferation.

Its striking resemblance to verrucous carcinoma and the *human papillomavirus* (HPV), which is the main etiological factor contributing to its development, cast doubt on its tight relationship to malignancy.^{1,2} The majority of white oral mucosal lesions that appear as flat, exophytic, wart-like, or papillary proliferations are now shown to have HPV. One might classify these lesions as clinical representations of oral HPV infections. Low-risk HPV types like HPV6, 11, 13, and 32 are associated with these oral lesions.^{2,3} Usually, it is an exophytic lesion that is less than 1 cm in size. Its shape can range from finger-like to cauliflower-like, and its base can be pedunculated or sessile.⁴

The HPV, which includes many forms within the *Papillomaviridae* family and has a diameter of 55 nm and

an icosahedral capsule, is the primary cause of these lesions (72 capsomere protein).^{5,6}

Even though tongue, skin, pharynx, larynx, and lip can all be affected by oral squamous cell papilloma, its occurrence on the gingiva is extremely uncommon.^{7,8} These lesions typically appear between the ages of 30 and 50, while they can occasionally appear as early as 10 years old. 8% of all oral tumours in children are OSPs.⁹

Squamous papillomas of the oral cavity, on gingiva, in children from north India have received very little attention in the literature. Here, we present case report of squamous papilloma of gingiva in a paediatric patient.

2. Case Report

A 13-year-old orthodontic patient reported with a chief complaint of pain and bleeding in the upper left front region of the mouth for six months. Ethical clearance was taken. Written informed consent was obtained from parents of the patient for publication of this case report and the pictures.

He reported that in December 2021, he had similar lesion on left maxillary alveolus gingiva and the biopsy was performed. According to his biopsy report (2021), it was squamous papillomatosis. In report, microscopic

* Corresponding author.

E-mail address: drkaur071993@gmail.com (H. Kaur).

examination showed multiple fragments with stratified squamous epithelium exhibiting papillomatosis. The papillae show fibrovascular cores. Sub-epithelium showed mild lymphomononuclear filtrate.

Intraoral examination (2022) showed the presence of erythematous soft tissue with respect to tooth number 23, which was partially erupted (Figure 1). The growth was present on the cervical area of the upper left canine. There were no notable results during the patient's general and extraoral examination. Following a surgical excision, the biopsy specimen was sent for histological analysis. Histopathologic report showed epidermis which is focally ulcerated. The dermis shows mild mixed inflammatory cell infiltrate composed of neutrophils and lymphocytes. Few haemorrhagic blood vessels are present. There is no evidence of any granuloma or atypia in the biopsy submitted. The patient was kept on follow up and till (July 2024) now there is no reoccurrence.



Figure 1: Image showing presence of erythematous soft tissue with respect to 23

3. Discussion

Similar to the rate of detectable oral HPV infection, which similarly rises with age, HPV-related benign lesions in the mouth are generally more common in adults.^{10–12} More precisely, the prevalence of detectable oral HPV infection peaks at ages 30–34 and 60–64.^{10,11} According to a theory, the peak at older ages may be connected to the typical immunosenescence process, which could result in the reactivation of latent HPV infections.^{10,13,14} However, benign HPV-related oral lesions have also demonstrated a bimodal peak, with squamous cell papillomas showing a greater prevalence between the third and seventh decades of life and condylomata acuminata showing a higher incidence between the third and fourth decades.^{10,12} They account for 8% of all pediatric oral tumors and can even be observed in children under the age of ten.^{15,16} However, papillomas were found in a patient as young as five years old and as

elderly as 92 years old in a study conducted by Frigerio et al., indicating a significant age range.^{16,17} It was observed that the patients' mean age was 48.5 years. Research indicates that this lesion may be more common in males than in women, however the gender predilection for this ailment is still up for debate.^{16,18} In our present case report, squamous papillomatosis in gingiva is seen in 13-year-old male patient.

OSP growth is linked to a number of variables, including immunosuppression, hormonal fluctuations, alcohol consumption, and tobacco use. Additionally, several human papillomavirus strains—specifically, HPV-6 and HPV-11—have been linked to the emergence of oral squamous papillomas.^{16,19}

The majority of lesions affecting the oral mucosa frequently grow slowly and remain asymptomatic. The tongue, soft palate, and uvula are the locations where it typically occurs.¹⁹ In present case report, squamous papillomatosis in gingiva is seen.

Numerous methods, including cytology, biopsy, immunohistochemistry, and molecular methods, are used in diagnosis.^{15,20,21} Due to its clinical resemblance to other epithelial lesions, such as condyloma acuminatum and verruca vulgaris, it can be difficult to treat. In this case, biopsy was the diagnostic technique employed.

The preferred course of treatment is surgical excision or laser ablation. Additional therapeutic approaches include cryosurgery and electrocautery, and intralesional interferon injections.^{15,22}

An uncomplicated surgical excisional biopsy was carried out on this patient. Despite the extremely low recurrence rate, any recurrence will occur prior to the 15-month follow-up period.^{16,23} In order to identify any early lesion recurrence, follow-up consultations were scheduled for a maximum of one and a half years. No signs of recurrence are present from 2022 till now.

4. Conclusion

Oral squamous papilloma (OSP), the fourth most common mucosal cancer, makes up approximately 3–4% of all biopsied lesions. These lesions usually arise between the ages of 30 and 50, however they can sometimes appear as young as 10 years old. Oral squamous papillomas account for 8% of all oral tumors in children. Early detection may prevent disease complications, and management can be done in a minimally invasive way.

5. Conflict of Interest

None.

References

1. Terai M, Hashimoto K, Yoda K, Sata T. High prevalence of human papillomaviruses in the normal oral cavity of adults. *Oral Microbiol Immunol.* 1999;14(4):201–5.

2. Singh AK, Malik U, Malhotra S, Kumar A. Squamous papilloma: A report of two cases with review of literature. *J Indian Acad Oral Med Radiol.* 2016;28(1):102–4.
3. Varnai AD, Bollmann M, Bankfalvi A, Kovacs K, Heller H, Schmitt C, et al. The prevalence and distribution of human papillomavirus genotypes in oral epithelial hyperplasia: Proposal of a concept. *J Oral Pathol Med.* 2009;38(2):181–7.
4. Boj JR, Hernandez M, Espasa E, Poirier C. Laser treatment of an oral papilloma in the pediatric dental office: A case report. *Quintessence Int.* 2007;38(4):307–12.
5. Pringle GA. The role of human papillomavirus in oral disease. *Dent Clin North Am.* 2014;58(2):385–99.
6. Alvarado JM, Rodríguez VP, Carrasco MF, Ramos VR, Carrasco JD. Squamous papilloma in the oral cavity: Case presentation and review of the literature. *J Dent Health Oral Disord Ther.* 2018;9(4):257–60.
7. Andrade SA, Pratavieira S, Paes JF, Ribeiro MM, Bagnato VS, Varotti FD. Oral squamous papilloma: A view under clinical, fluorescence and histopathological aspects. *Einstein (Sao Paulo).* 2019;17(2):eRC4624.
8. Datta P, Panda A, Lenka S, Satpathy A. Squamous cell papilloma of the gingiva with a "garlanding a tooth" appearance: Report of an unusual case. *J Indian Soc Periodontol.* 2020;24(6):572–4.
9. Jayaa AR, Nagarathna C, Aishwarya N. A case report of squamous papilloma of the hard palate in a pediatric patient. *J Indian Soc Pedod Prev Dent.* 2020;38(1):91–3.
10. Spirito FD, Pantaleo G, Palo MP, Amato A, Raimondo A, Amato M. Oral human papillomavirus benign lesions and HPV-related cancer in healthy children: A systematic review. *Cancers.* 2023;15(4):1096.
11. Wierzbicka M, Klusmann JP, Giorgi MR, Wuerdemann N, Dikkers FG. Oral and laryngeal HPV infection: Incidence, prevalence and risk factors, with special regard to concurrent infection in head, neck and genitals. *Vaccine.* 2021;39(17):2344–50.
12. Betz SJ. HPV-related papillary lesions of the oral mucosa: A review. *Head Neck Pathol.* 2019;13(1):80–90.
13. Spirito FD, Iandolo A, Amato A, Caggiano M, Raimondo A, Lembo S, et al. Prevalence, features and degree of association of oral lesions in COVID-19: A systematic review of systematic reviews. *Int J Environ Res Public Health.* 2022;19(12):7486.
14. Gillison ML, Broutian T, Pickard RK, Tong ZY, Xiao W, Kahle L, et al. Prevalence of oral HPV infection in the United States, 2009–2010. *JAMA.* 2012;307(7):693–703.
15. Orenuga OO, Oluwo A, Oluwakuyide RT, Olawuyi AB. Recurrent oral squamous papilloma in a pediatric patient: case report and review of the literature. *Niger J Clin Pract.* 2018;21(12):1674–7.
16. Darwish G. Squamous papilloma of the soft palate: A case report. *Cureus.* 2023;15(4):e37423–37423.
17. Frigerio M, Martinelli-Kläy CP, Lombardi T. Clinical, histopathological and immunohistochemical study of oral squamous papillomas. *Acta Odontol Scand.* 2015;73(7):508–15.
18. Datta P, Panda A, Lenka S, Satpathy A. Squamous cell papilloma of the gingiva with a "garlanding a tooth" appearance: Report of an unusual case. *J Indian Soc Periodontol.* 2020;24(6):572–4.
19. Chaitanya P, Martha S, Punithvathy R, Reddy M. Squamous papilloma on hard palate: Case report and literature review. *Int J Clin Pediatr Dent.* 2018;11(3):244–6.
20. Bond TE. Squamous papilloma. In: Bond's Book of Oral Disease; 1999. Available from: <http://www.maxillofacialcenter.com/BondBook/mucosa/papilloma.html>.
21. Syrjänen S, Puranen M. Human papillomavirus infections in children: The potential role of maternal transmission. *Crit Rev Oral Biol Med.* 2000;11(2):259–74.
22. Yoshpe NS. Oral and laryngeal papilloma: A pediatric manifestation of sexually transmitted disease? *Int J Pediatr Otorhinolaryngol.* 1995;31(1):77–83.
23. Babaji P, Singh V, Chaurasia VR, Masamatti VS, Sharma AM. Squamous papilloma of the hard palate. *Indian J Dent.* 2014;5(4):211–3.

Author biography

Harpuneet Kaur, Former BDS Graduate

Cite this article: Kaur H. Squamous papillomatosis of gingiva in a 13-year-old patient: A case report. *IP J Surg Allied Sci* 2024;6(3):104-106.