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Oral Papilloma: Clinical Features and Surgical Treatment Approaches—Two Case Reports

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Abstract

Oral papilloma is a benign epithelial lesion often associated with low-risk human papillomavirus (HPV), particularly types 6 and 11. It typically presents as an asymptomatic exophytic growth with a papillary or verrucous surface. We report two cases involving a child and an older adult, highlighting differences in clinical presentation related to the duration of evolution. Diagnosis was based on clinical features and confirmed histologically. Treatment consisted of complete surgical excision using two methods: cold blade surgery and diode laser ablation. The laser technique offered notable advantages, including excellent hemostasis, minimal postoperative pain, and a reduced risk of recurrence. Postoperative outcomes were favorable in both cases, with no recurrence observed at short-term follow-up.

Subject Areas

Public Health

Keywords

Papilloma, Oral Cavity, Human Papilloma Virus Lesion, Oral Surgery, Diode Laser

1. Introduction

Squamous papilloma is the most common benign epithelial tumor of the oral mucosa [1]. The World Health Organization defines papilloma as “a range of localized hyperplastic exophytic and polypoid lesions of hyperplastic epithelium with a verrucous or cauliflower-like morphology” [2]. It represents for approximately 2.5% of papillary lesions in the oral cavity and can also be found in other locations such as the larynx, bronchial tree, esophagus, bladder, anus, and genital tract [1] [3].

The etiology of oral squamous papilloma remains unknown, although associations with human papillomavirus (HPV) and local trauma have been reported [2] [4].

HPV has been found to have the ability to invade the nuclei of cells in the spinous layer resulting in proliferative tissue growth. A recent report in the scientific literature, however, suggests that presence of HPV may be merely an incidental finding unrelated to the development of a squamous papilloma [4].

Its clinical appearance may sometimes mimic exophytic carcinoma, verrucous carcinoma, or condyloma acuminatum. This underscores the necessity of a thorough clinical examination, complemented by histopathological analysis, to establish an accurate diagnosis [2] [4].

Based on two clinical cases, we highlight the oral locations of papillomas, their pathogenesis, clinical features, and therapeutic approaches.

2. Case Reports

2.1. Case 1

A 12-year-old boy, with no significant medical history, presented with an intraoral lesion evolving for ten months.

Extraoral examination revealed no abnormalities.

Intraoral examination showed a single, exophytic, whitish lesion with a papillomatous surface (cauliflower-like appearance), pedunculated, soft in consistency, painless, and non-bleeding up on palpation. It was located on the internal aspect of the right labial commissure (**Figure 1**). No similar lesions were observed elsewhere in the oral cavity.

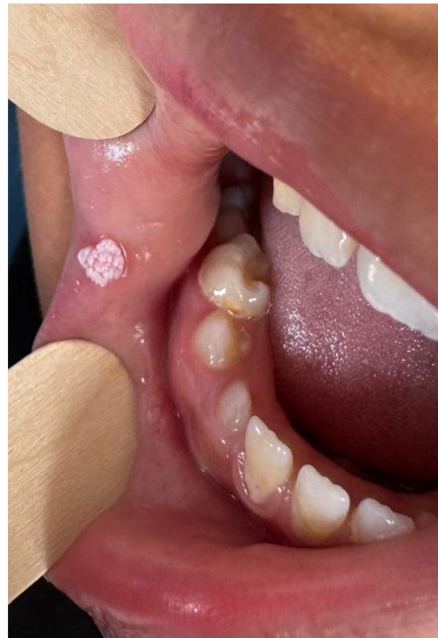

Figure 1. Intraoral examination showing a single, exophytic, pedunculated lesion with a whitish, cauliflower-like appearance on the internal aspect of the right labial commissure.

Based on clinical findings, a diagnosis of oral papilloma was suggested. Differential diagnoses included condyloma acuminatum and Verrucae vulgaris, due to the papillomatous appearance of the lesion.

The lesion was completely excised under local anesthesia using a diode laser set at a power of 1.5 W and a wavelength of 300 μm (Figure 2).

Histopathological analysis revealed hyperkeratinized stratified squamous epithelium resting on a thin fibrovascular connective tissue core. The connective tissue contained small endothelial-lined vascular channels and a moderate chronic inflammatory infiltrate, mainly composed of lymphocytes.

No koilocytotic cells were observed (Figure 3). These histological features confirmed the diagnosis of oral papilloma.

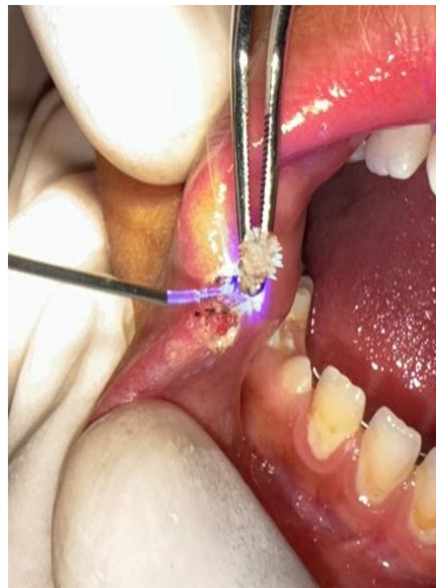

Figure 2. Excision of the lesion using a diode laser under local anesthesia.

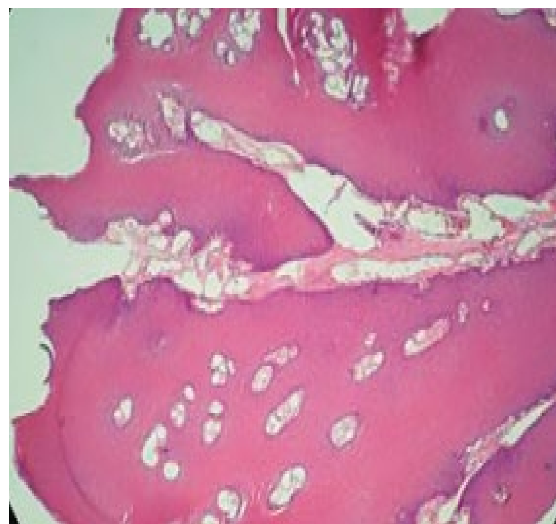

Figure 3. Histopathological view showing proliferation of spinous cells in the form of finger-like projections.

Immediately following the procedure (Figure 4), the patient reported significant comfort with no notable pain. One week later, early healing and absence of pain were noted. One month after excision, complete tissue healing was observed with no signs of recurrence (Figure 5).

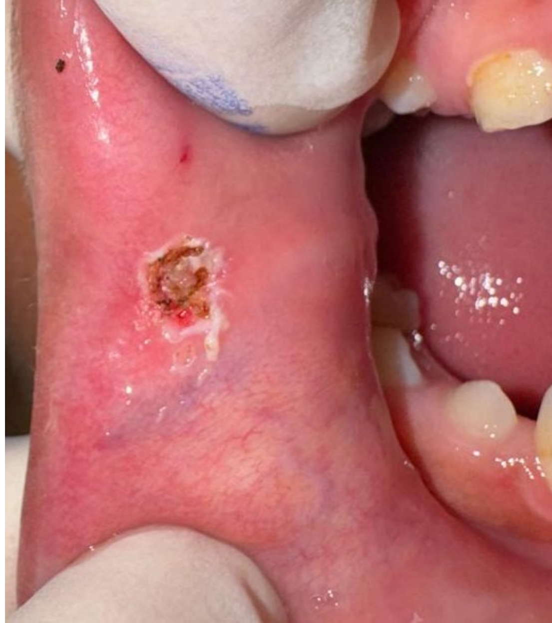

Figure 4. Immediate postoperative view showing clean excision margins and absence of bleeding.

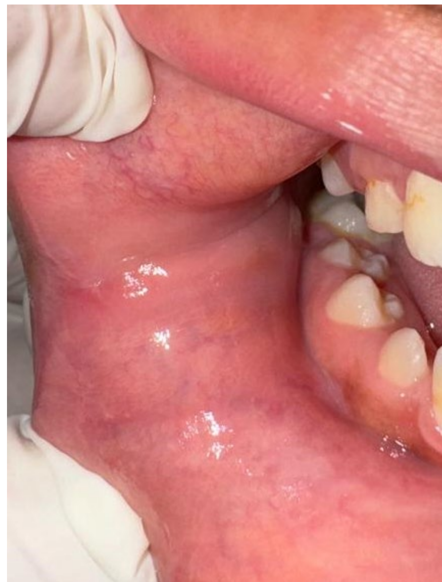

Figure 5. One-month follow-up showing complete healing of the surgical site.

2.2. Case 2

A 63-year-old married man, with no significant medical history, presented with an intraoral lesion that had been evolving for one month.

Extraoral examination revealed no abnormalities.

Intraoral examination revealed a single, hypertrophic, verrucous, pink lesion, sessile, soft in consistency, painless, and non-bleeding on palpation. It was located on the edentulous site of tooth 14 (**Figure 6**).

Based on the clinical presentation, several diagnoses were considered: oral papilloma, condyloma acuminatum, verruca vulgaris, and verrucous carcinoma.

An excisional biopsy was performed using a cold blade (**Figure 7**), followed by histopathological examination.

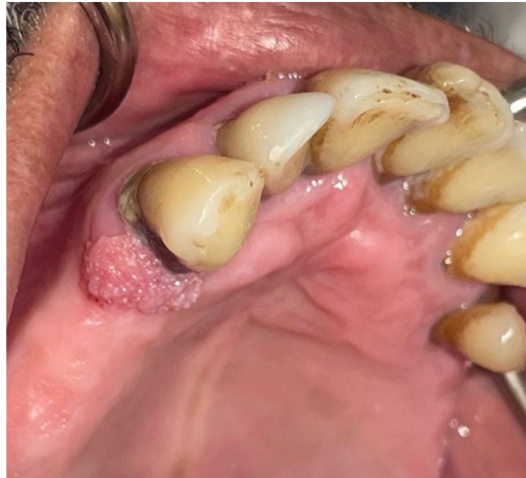

Figure 6. Intraoral examination showing a single, sessile, hypertrophic verrucous lesion with a pink appearance on the edentulous site of tooth 14.

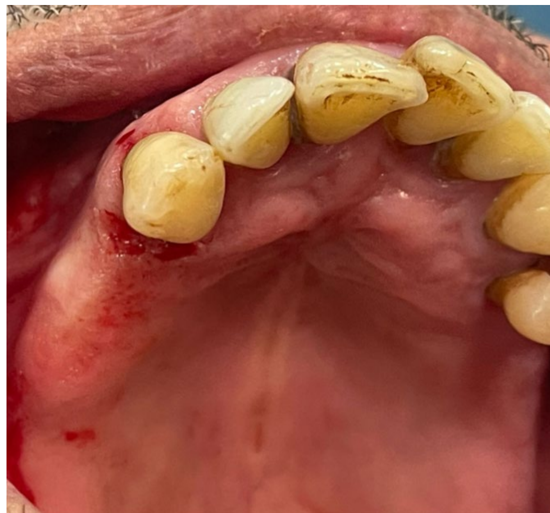

Figure 7. Immediate postoperative view following excision of the lesion using a cold scalpel.

The histopathological analysis revealed a stratified squamous mucosa with a papillomatous hyperplastic surface epithelium, without koilocytes or architectural disorganization. These features confirmed the diagnosis of oral papilloma (**Figure 8**).

Follow-up after one month showed good healing of the surgical site with no signs of recurrence (**Figure 9**).

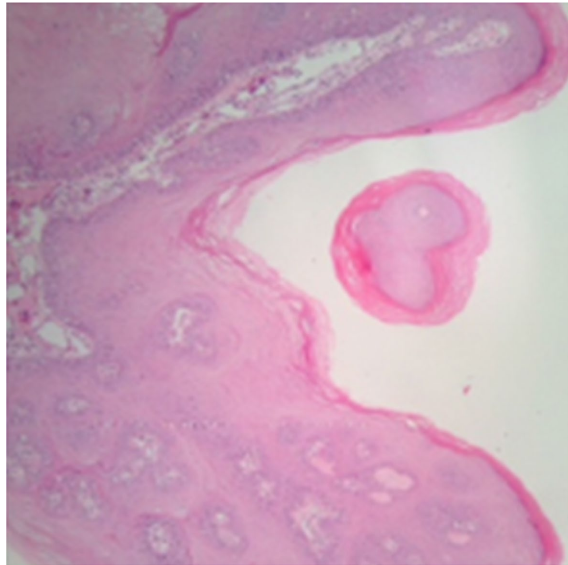

Figure 8. Histopathological view showed stratified squamous mucosa with a papillomatous hyperplasic surface epithelium.

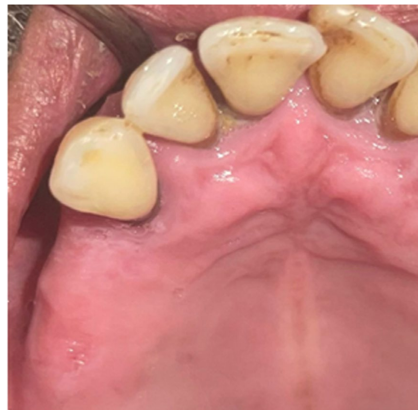

Figure 9. One month follow-up showing good healing of the surgical site with no signs of recurrence.

3. Discussion

Oral squamous papilloma is a generic term that is used to include papillary and verrucous growths composed of benign epithelium and minor amounts of supporting connective tissue [3]. It is a benign tumor that develops from the stratified squamous epithelium, usually as a result of localized epithelial hyperplasia. It is most often associated with infection by human papillomavirus (HPV), particularly types 6 and 11, which are considered low-risk oncogenic strains [2] [4].

HPV is transmitted through sexual, perinatal, horizontal, or autoinoculation. In adults, contamination is most commonly linked to sexual activity, particularly through orogenital or orobuccal contact. In children, transmission is generally non-sexual, occurring either perinatally during passage through the birth canal, by autoinoculation from cutaneous warts, or, more rarely, via indirect contact with contaminated objects. Horizontal transmission between individuals (saliva

or hands) is also possible [2]-[5].

Once inoculated, usually through mucosal erosions or microabrasions, HPV reaches the basal layers of the stratified epithelium, which represent the only permissive site for viral replication. The virus then expresses early proteins, such as E6 and E7, which interfere with cell cycle regulators, thereby inducing the proliferation of infected keratinocytes. These infected cells subsequently migrate toward the superficial epithelial layers while continuing to express the viral genome. This process results in epithelial hyperplasia, which is histologically characterized by acanthosis, papillomatosis, and hyperkeratosis—features that explain the typical clinical appearance of oral papillomatous lesions. Among the most frequently HPV-associated lesions in the oral cavity are squamous papilloma, verruca vulgaris, condyloma acuminatum, and focal epithelial hyperplasia [1] [5] [6].

However, not all oral papillomas are necessarily of viral origin. Non-viral etiologies have also been described, involving chronic irritative or inflammatory factors. These include tobacco use, alcoholism, repeated mechanical trauma (such as ill-fitting prostheses or uncorrected edentulous areas), as well as poor oral hygiene [7].

Although oral papilloma is usually diagnosed between the ages of 20 and 50, it can occur at any age, as illustrated by our two cases, affecting both a child and an elderly adult [1] [2].

Clinically, oral papilloma presents as an exophytic proliferation with a papillary or verrucous surface, often pedunculated but sometimes sessile, and generally asymptomatic. Its size is usually less than 1 cm. The color, ranging from white to pink, depends on the degree of keratinization, which is itself influenced by the duration of the lesion's development [3] [4] [8] [9].

In our cases, keratinization was more pronounced in the child, whose long-standing lesion appeared whitish, whereas in the adult, the more recent lesion was pinkish with less keratinization.

The most common locations are the hard palate and tongue, but other sites such as the labial mucosa and edentulous ridges may also be involved, as observed in our cases [3] [4] [8] [9].

The diagnosis is clinical and histopathological [2] [8]. Histopathological examination reveals characteristic features such as hyperpapillomatosis, hyperkeratosis, and acanthosis [3]-[5]. The presence of koilocytes, vacuolated keratinocytes with enlarged nuclei indicative of viral involvement, was not observed in the cases presented, was not observed in the cases presented. The virus itself can be detected using techniques such as in situ hybridization and polymerase chain reaction (PCR) [5].

The standard treatment for oral papilloma remains complete surgical excision, which serves both to confirm the histopathological diagnosis and to ensure curative management. Various techniques can be employed, including cold blade excision, electrocautery, laser ablation, cryosurgery, and, in some cases, intralesional interferon injections [4] [5]. The choice of method depends on several factors,

such as the lesion's location, size, the patient's age, and the available technical resources.

Two approaches were successfully employed in our patients: cold blade excision and diode laser removal.

The choice of laser was guided by its numerous clinical advantages. This technique provides excellent hemostasis, allows for high precision in tissue ablation, minimizes local trauma, and eliminates the need for sutures. Moreover, it is associated with significantly reduced postoperative pain and edema, ensuring greater patient comfort and faster healing. Furthermore, the use of high-power laser surgery is believed to vaporize virus-infected cells, with the thermal effect extending beyond the visible lesion margins. This mechanism contributes to reducing the residual viral load and, consequently, lowers the risk of recurrence [10]-[12].

For both patients, the postoperative evolution was favorable, with no short-term recurrence observed.

4. Conclusion

Oral papilloma is a benign lesion commonly associated with HPV. Diagnosis relies on clinical examination and histopathological analysis. Complete excision, by various methods including laser, remains the treatment of choice. Laser offers advantages such as better hemostasis and reduced postoperative pain. In our cases, the postoperative course was favorable with no short-term recurrence.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Carrasco, M.F.L., Alvarado, J.M.P., Rodríguez, V.P.R., Ramos, V.R.V. and Reinoso Carrasco, J.D.C. (2018) Squamous Papilloma in the Oral Cavity: Case Presentation and Review of the Literature. *Journal of Dental Health*, *Oral Disorders & Therapy*, **9**, 257-260. https://doi.org/10.15406/jdhodt.2018.09.00387

[2] Chaitanya, P., Martha, S., Punithvathy, R. and Reddy, M. (2018) Squamous Papilloma on Hard Palate: Case Report and Literature Review. *International Journal of Clinical Pediatric Dentistry*, **11**, 244-246. https://doi.org/10.5005/jp-journals-10005-1519

[3] Jaju, P.P., Suvarna, P.V. and Desai, R.S. (2010) Squamous Papilloma: Case Report and Review of Literature. *International Journal of Oral Science*, **2**, 222-225. https://doi.org/10.4248/ijos10065

[4] Orenuga, O.O., Oluwo, A., Oluwakuyide, R.T. and Olawuyi, A.B. (2018) Recurrent Oral Squamous Papilloma in a Pediatric Patient: Case Report and Review of the Literature. *Nigerian Journal of Clinical Practice*, **21**, 1674-1677. https://doi.org/10.4103/njcp.njcp_407_17

[5] Nabih, O., Kissi, L. and Ben Yahya, I. (2017) Localisation orale de condylome acuminé: À propos de 3 cas cliniques et revue de littérature. *Actualités Odonto-Stomatologiques*, **285**, Article 6. https://doi.org/10.1051/aos/2017056

[6] Bila, T., Wendling, G. and Schwartzbrod, P.E. (2014) Pathologies buccales à papilloma virus humain en dehors d'une contamination sexuelle: À propos de 3 patients.

Médecine Buccale Chirurgie Buccale, **20**, 193-201.
https://doi.org/10.1051/mbcb/2014023

[7] Andrei, E.C., Baniţă, I.M., Munteanu, M.C., Busuioc, C.J., Mateescu, G.O., Mălin, R.D., *et al.* (2022) Oral Papillomatosis: Its Relation with Human Papilloma Virus Infection and Local Immunity—An Update. *Medicina*, **58**, Article 1103.
https://doi.org/10.3390/medicina58081103

[8] Andrade, S.A., Pratavieira, S., Paes, J.F., *et al.* (2019) Oral Squamous Papilloma: A View under Clinical, Fluorescence and Histopathological Aspects. *Einstein* (*São Paulo*), **17**, eRC4624.

[9] Singh, A.K., Malik, U., Malhotra, S. and Kumar, A. (2016) Squamous Papilloma: A Report of Two Cases with Review of Literature. *Journal of Indian Academy of Oral Medicine and Radiology*, **28**, 102-104. https://doi.org/10.4103/0972-1363.189978

[10] Akerzoul, N. and Chbicheb, S. (2018) The Efficacy of Low-Level Laser Therapy in Treating Oral Papilloma: A Case Reporting a Lingual Location. *Contemporary Clinical Dentistry*, **9**, 369-372. https://doi.org/10.4103/ccd.ccd_431_18

[11] da Cunha, W.A., Souza, A.M.A., Pina, P.S.S. and Azevedo, L.H. (2021) Efficacy of Diode Laser in Treating Oral Papilloma: A Case Report. *The Open Dentistry Journal*, **15**, 262-265. https://doi.org/10.2174/1874210602115010262

[12] Baeder, F.M., Santos, M.T.B.R., Pelino, J.E.P., Duarte, D.A. and Genovese, W.J. (2012) High-Power Diode Laser versus Electrocautery Surgery on Human Papillomavirus Lesion Treatment. *Journal of Craniofacial Surgery*, **23**, 702-705.
https://doi.org/10.1097/scs.0b013e31824dba38