Human Papillomavirus (HPV) Related Oral Mucosal Lesions in the Pediatric Population

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INTRODUCTION

Human papillomavirus (HPV) includes over one hundred and thirty types of DNA viruses of the family *Papillomaviridae*. The major HPV types associated with lesions in the oral and head and neck mucosa include types 6, 11, 13, 16, and 32. This presentation discusses routes of transmission, oral manifestations, and possible long-term outcomes of HPV infection in children via the case of a 7 year-old male who had a suspected HPV-related lesion on the right labial commissure excised and identified through pathology report as a squamous papilloma.



Figure 1: Clinical photo of the squamous papilloma as described in the case description.

DISCUSSION

- This case highlights how critical regular dental and medical check-up exams, as well as scheduled vaccinations, can be.
- Dentists are first-line providers in observing such lesions and should encourage HPV vaccination of pediatric patients even if they have been previously infected with HPV.
- HPV vaccines can be administered to patients as early as 9-10 years old to prevent future infection and potential development of benign or cancerous entities.

LITERATURE REVIEW

- HPV prevalence in the oral cavity and oropharynx is uncertain due to the wide variability of study results.
- Most of the HPV-associated oral mucosal lesions that occur in the pediatric population are benign SPs (Figure 1).
- Dentists are first-line providers in observing such lesions and should encourage HPV vaccination of pediatric patients even if they have been previously infected with HPV.
- HPV vaccines can be administered to patients as early as 9-10 years old to prevent future infection and potential development of benign or cancerous entities.
- Most of the HPV-associated oral mucosal lesions occurring in the pediatric population are benign SPs (Figure 1).

CASE DESCRIPTION

A 7-year-old male presented to the SIUH dental clinic for an emergency visit with the chief complaint of "I have a pimple on my lip,' pointing to the right labial commissure (Figure 1). The patient self-reported having had no pain or discomfort. The patient's father stated that the patient exhibited this "warty" lesion several months ago. At a subsequent visit, an excisional biopsy was done. The final pathology report diagnosed the lesion as a squamous papilloma.

References

CONCLUSION

- HPV can be transmitted orally through autoinoculation from cuts, fomites, breast feeding, saliva, or bathing.
- Squamous papilloma (SPs) is the most frequent benign oral epithelial entity in both children and adults.
- SPs often present as a mixed red/white pedunculated lesion in the oral mucosa with papillary "finger-like" projections measuring <5 millimeters.
- Overall, benign HPV-related oral lesions most frequently affect the lips, while SPs are most often seen in the palate and tongue.

An Neville, B.W., Damm, D.D., Allen, C.M. and Chi, A.C. (2016) Oral & Maxillofacial Pathology. 4th Edition, WB Saunders, Elsevier, Missouri, 604-605.
Betz S. J. (2019). HPV-Related Papillary Lesions of the Oral Mucosa: A Review. *Head and neck pathology*, *13*(1), 80–90. <u>https://doi.org/10.1007/s12105-019-01003-7</u>
Diprito, F., Pantaleo, G., Di Palo, M. P., Amato, A., Raimondo, A., & Amato, M. (2023). Oral Human Papillomavirus Benign Lesions and HPV-Related Cancer in Healthy Children: A Systematic Review. *Cancers*, *15*(4), 1096 <u>https://doi.org/10.3097/cancer15040196</u>
Muzio, L. L., Ballini, A., Cantore, S., Bottalico, L., Charitos, I. A., Ambrosino, M., Nocini, R., Malcangi, A., Dioguardi, M., Cazzola, A. P., Brau ner, E., Santacroce, L. & Cosola, M. D. (2021). Overview of *Candida albicans* and H

5) Castro, T. P., & Bussoloti Fiho, I. (2006). Prevalence of human papillomavirus (HPV) in oral cavity and oropharynx. Brazilian journal of o torhinolaryngology, 72(2), 272–282. https://doi.org/10.1016/s1808-8694(15)30068-9

⁴⁾ Muzio, L. L., Ballini, A., Cantore, S., Bottalico, L., Charitos, I. A., Ambrosino, M., Nocini, R., Malcangi, A., Dioguardi, M., Cazzola, A. P., Brauner, E., Santacroce, L., & Cosola, M. D. (2021). Overview of *Can dida albicans* and Human Papillomavirus (HPV) Infection Agents and their Biomolecular Mechanisms in Promoting Oral Cancer in Pediatric Patients. *BioMed research international*, 2021, 7312611. <u>https://doi.org/10.1155/2021/7312611</u>