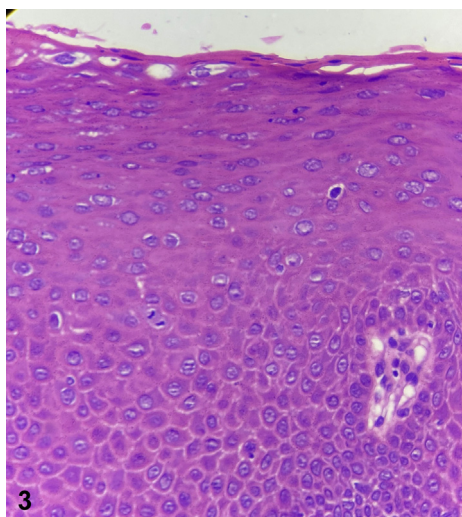
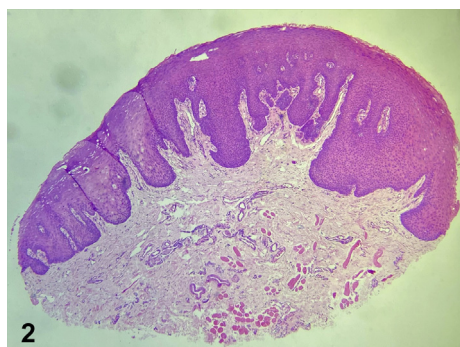


Exuberant oral lesions in an immunocompromised patient



Cleide Garbelini Lima Forneck, MD, Gabriela Evangelista de Almeida, MD, Marcela Carolina Pastore, MD, Andréa de Souza Cavalcante, MS, and Mara Lúcia Gomes de Souza, MD
Manaus, Amazonas, Brazil

Key words: HIV; human papillomavirus; immunosuppression.



A 32-year-old male presented with lesions in the oral mucosa developing over a period of one year. Since 2006, the patient maintained a low CD4⁺ lymphocyte count due to an HIV infection. On physical examination, multiple rose/pink-to-white papules and plaques with a soft consistency were found on the lower and upper portion of the lips and gums (Fig 1). Histopathology of the skin by routine staining showed parakeratosis,

From the Tropical Medicine Foundation—Dr Heitor Vieira Dourado, Manaus, Amazonas.

Funding sources: None.

IRB approval status: Not applicable.

Correspondence to: Dr Cleide Garbelini-Lima Forneck, Av. Pedro Teixeira 2292, Condomínio Thiago de Mello, Apto 1204, Torre B; Dom Pedro I, CEP: 69040-000, Manaus, Amazonas, Brazil. E-mail: cle_garbelini@hotmail.com.

JAAD Case Reports 2021;8:40-2.
2352-5126

© 2020 by the American Academy of Dermatology, Inc. Published by Elsevier, Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.jdc.2020.11.028>

acanthosis with robust rete ridges, and koilocytes. In the lamina propria, a chronic subepithelial inflammatory infiltrate and dilated capillaries were observed (Figs 2 and 3). A molecular test for high-risk oncogenic deoxyribonucleic acid-human papillomavirus was positive.

Question 1: Based on the patient's history, physical examination, and histopathologic findings, what is the most likely diagnosis?

- A. Squamous papilloma
- B. Condyloma accuminatum
- C. Heck disease
- D. White sponge nevus
- E. Common wart (verruca vulgaris)

Answers:

A. Squamous papilloma—Incorrect. Benign epithelial proliferating lesions. Usually pedunculated, colors range from white to pink/red and generally presenting as a solitary lesion, which are different from those in this case.¹

B. Condyloma accuminatum—Correct. Condyloma accuminatum in the oral cavity is a rare disease, it is sexually transmitted, and is most common in adults. It presents as pedunculated, sessile, solitary, or multiple lesions, and these can coalesce. It is caused by the human papillomavirus (HPV) genotypes 6, 11, 16, and 18. Histopathology shows an exophytic papillary architecture with a broad and evident base, parakeratosis, and acanthosis with robust rete ridges. Koilocytes may be observed in the upper spinous layer, and there is a chronic subepithelial inflammatory infiltrate and dilated capillaries in the lamina propria.^{1,2}

C. Heck disease—Incorrect. Rare and benign disease. Especially in children, it is characterized by flat, numerous, and extensive lesions, affecting the lips, tongue, and oral mucosa. The lesions tend to clear spontaneously. The HPV subtypes most commonly detected in Heck disease are 13 and 32.³

D. White sponge nevus—Incorrect. Rare genodermatosis caused by mutations in the keratin 4 or 13 gene. Presenting in childhood as white, asymptomatic, diffuse, and bilateral plaques observed in the oral mucosa and tongue.

E. Common wart (verruca vulgaris)—Incorrect. Most common skin infection caused by HPV, occurring most often on fingers or hands. Intraoral manifestation is uncommon. Clinically, mucosal lesions are exophytic, typically solitary, white-to-rose/pink in color, sessile, and less than 1 cm in size.¹

Question 2: What is the etiological agent commonly associated with this disease?

- A. Human papillomavirus 13 and 32
- B. Human papillomavirus 2 and 4
- C. Human papillomavirus 6, 11, 16, and 18
- D. Herpes simplex virus 1
- E. Epstein-Barr virus

Answers:

A. Human papillomavirus 13 and 32—Incorrect. The HPVs 13 and 32 are low-risk oncogenic subtypes and related to Heck disease.³

B. Human papillomavirus 2 and 4—Incorrect. HPVs 2 and 4 are more associated to common warts present in the oral cavity.

C. Human papillomavirus 6, 11, 16, and 18—Correct. HPV 6 and 11 are associated with a low oncogenic risk, while HPV 16 and 18 are related to a high oncogenic risk. These four HPV subtypes are commonly detected in oral condyloma accuminatum. The molecular analysis was positive for high-risk oncogenic deoxyribonucleic acid-human papillomavirus in the presented case.⁴

D. Herpes simplex virus 1 (HSV-1)—Incorrect. HSV-1 is an alphaherpesvirus, which causes an infection that is usually asymptomatic, affecting skin and mucosa. Gingivostomatitis is the most common manifestation of primary HSV (HSV-1) infection, mainly manifesting as multiple painful oral lesions, swollen gums, blisters, and sores. The lesions described are incompatible with those reported in this case, which were painless.

E. Epstein-Barr virus—Incorrect. Epstein-Barr virus is a herpesvirus, which is widespread throughout the world. A typical clinical manifestation is infectious mononucleosis, which is characterized by tonsillitis and/or pharyngitis, an increase of cervical lymph nodes sensitivity and size, and moderate-to-high fever. The clinical findings are not compatible with those observed in the present case.

Question 3: Which of the statements below is not considered a risk factor for the disease in this case report?

- A. Sexually active life

- B. Immunosuppression
- C. Complete HPV vaccine schedule
- D. Self-inoculation
- E. Unprotected sexual intercourse

Answers:

- A.** Sexually active life—Incorrect. Transmission occurs mainly through social contact, self-inoculation, and infected fomites as in this present case.²
- B.** Immunosuppression—Incorrect. The risk factors for HPV infection include smoking, immunosuppression, and sexual behavior. As observed in the clinical picture, the patient had immunosuppression secondary to the HIV diagnosis.⁵
- C.** Complete HPV vaccine schedule—Correct. Considering the oncogenic nature of HPV, patients should be instructed on the use of preventive methods and a HPV vaccine schedule.³
- D.** Self-inoculation—Incorrect. It is transmitted through direct horizontal contact, such as anogenital intercourse with genital and/or oral contact with the mucous membranes of an infected area, or indirect contact, such as contaminated utensils. As reported, the patient had oral lesions consistent with this form of transmission.²

E. Unprotected sexual intercourse—Incorrect. The main transmission form is self-inoculation or direct contact through unprotected sexual intercourse. Patients should be made aware of the use of preventive methods.²

Abbreviations used:

HPV: human papillomavirus
HSV-1: herpes simplex virus 1

Conflicts of interest

None disclosed.

REFERENCES

1. Betz SJ. HPV-related papillary lesions of the oral mucosa: a review. *Head Neck Pathol.* 2019;13(1):80-90.
2. Sudhakar S, Senthil B, Sundar S. A rare nonvenereal presentation of oral condyloma acuminatum. *Indian J Dermatol.* 2019;64(5):419-420.
3. Gemigniani F, Hernández-Losa J, Ferrer B, García-Patos V. Focal epithelial hyperplasia by human papillomavirus (HPV)-32 misdiagnosed as HPV-16 and treated with combination of retinoids, imiquimod and quadrivalent HPV vaccine. *J Dermatol.* 2015;42(12):1172-1175.
4. Fakhry C, Blackford AL, Neuner G, et al. Association of oral human papillomavirus DNA persistence with cancer progression after primary treatment for oral cavity and oropharyngeal squamous cell carcinoma. *JAMA Oncol.* 2019;5(7):985-992.
5. Anaya-Saavedra G, Flores-Moreno B, García-Carrancá A, Irigoyen-Camacho E, Guido-Jiménez M, Ramírez-Amador V. HPV oral lesions in HIV-infected patients: the impact of long-term HAART. *J Oral Pathol Med.* 2013;42(6):443-449.