

ORAL VERRUCA VULGARIS

Definition: Oral verruca vulgaris is a benign, rough-surfaced exophytic, hyperplasia of epithelial tissue caused by a human papillomavirus (HPV).

Etiology/Epidemiology: Oral verruca vulgaris is associated with HPV strain types 1, 2, 4, 7, and 57. Extraorally, the lesions are commonly found on the hands of young children. It is hypothesized that the virus contained within the epithelial cells of the hands can be spread by autoinoculation.

Clinical Presentation: Intraoral verruca vulgaris appear as well-circumscribed, exophytic, broad-based, dome-shaped, white, sessile papules or nodules with a rough papillomatous surface. The lesions typically measure between 2–5 mm in diameter. Intraoral lesions most often occur on the lips, hard palate, and gingiva. The lesions are usually solitary; however, multiple lesions may result from repeated autoinoculation.

Microscopic Presentation: Present as papillary epithelial proliferations that contain multiple finger-like projections exhibiting hyperkeratosis and a prominent granular cell layer. Mild degrees of basilar hyperplasia and radially oriented rete pegs are present. Variable numbers of superficial epithelial cells with shrunken nuclei and perinuclear clearing, which indicate HPV infection, are seen. The connective tissue exhibits dilated vascular channels and some variable numbers of chronic inflammatory cells.

Differential Diagnosis:

- Squamous papilloma
- Condyloma acuminatum
- Exophytic squamous cell carcinoma
- Keratoacanthoma
- Exophytic verrucous carcinoma
- Focal epithelial hyperplasia
- Verruciform xanthoma

Diagnosis: Surgical removal followed by light microscopy.

Treatment: Some lesions will regress spontaneously. Those that persist should be excised surgically. Recurrence of intraoral lesions may occur but is uncommon. Although interferon alpha is very effective against HPV with intraleisional injection, this should be used as a last resort.

Malignant Transformation: While oral verruca vulgaris is considered a benign lesion, between one-third and one-half of oral squamous cell carcinomas are associated with HPVs. When HPVs are present, 80% are infected with high-risk HPV types 16 and 18; however, HPV types 2, 3, 13, 31, 33, 35, 52, and 57 have also been isolated from oral squamous cell carcinoma. It is important to note that cofactors such as tobacco, alcohol, carcinogens, and other viral infections may participate along with HPV in the transformation process to oral cancer development.

Suggested Reading:

Adler-Storzh K, Newland JR, Tessin BA, Yeudall WA, Shillitoe EJ. Identification of human papillomavirus types in oral verruca vulgaris. *J Oral Pathol* 1986;15:230–233.

Chen YK, Huang HC, Lin LM, Lin CC. Primary oral squamous cell carcinomas: An analysis of 703 cases in southern Taiwan. *Eur J Cancer (B) Oral Oncol* 1999;35:173–179.

Eversole LR, Laipis PJ, Green TL. Human papillomavirus type 2 DNA in oral and labial verruca vulgaris. *J Cutan Pathol* 1987;14:319–325.

Green TL, Eversole LR, Leider AS. Oral and labial verruca vulgaris: Clinical, histologic and immunohistochemical evaluation. *Oral Surg Oral Med Oral Pathol* 1986;62:410–416.

Greenspan D, de Villiers EM, Greenspan JS, de Souza YG, zur Hausen H. Unusual HPV types in oral warts in association with HIV infection. *J Oral Pathol* 1988;17:482–487.

Jin YT, Toto PD. Detection of human papovavirus antigen in oral papillary lesions. *Oral Surg Oral Med Oral Pathol* 1984;58:702–705.

Padayachee A. Human papillomavirus (HPV) types 2 and 57 in oral verrucae demonstrated by in situ hybridization. *J Oral Pathol Med* 1994;23:413–417.

Ratoosh SL, Glombicki AP, Lockhart SG. Mastication of verruca vulgaris associated with esophageal papilloma: HPV-45 sequences detected in oral and cutaneous lesions. *J Am Acad Dermatol* 1997;36(number 5, part 2):853–857.

Snyderman CH. Human papillomavirus and head and neck cancer: Epidemiology and molecular biology. *Head and Neck* 1998;20:250–265.

Teraï M, Tagaki M, Matsukura Y, Sata T. Oral wart associated with human papillomavirus type 2. *J Oral Pathol Med* 1999;28:137–140.

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