Journal of Iranian Medical Council, Volume 8, Issue no. 4
http://dx.doi.org/10.18502/jimc.v8i4.19556

Letter to Editor

They are Tongue Papillae, Not HPV-Related Lesions: More Attention, Please!

Hamed Mortazavi*

Department of Oral Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Dear Editor

The oral cavity can be affected by many pathologic conditions of variable cause and significance; however, there are several normal structures and variations of normal structures that may resemble a pathologic state (1,2). Some of them are present in more than 80% of the general population and only require patient guidance (3). In this regard, clinically, normal tongue variations have been mistaken for lesions associated with the Human Papillomavirus (HPV). In both of these cases, the surface of the oral mucosa can be observed in the form of fine bumps that have different manifestations (4,5). The dorsal surface of the tongue is covered with tiny projections known as papillae, which are divided into four types of filiform, fungiform, foliate, and circumvallate papillae (5). These phenomena are different in shape, size, number, and organization according to each mammal species (5,6).

The dorsum of the tongue in the anterior two-thirds region is covered by numerous thread-like, fine, pointed, cone-like epithelial extensions called filiform papillae (7) which are arranged in lines almost parallel to the terminal sulcus (7). Differences in the morphology of these types of papillae may be seen on the tip and middle regions of the tongue in some species (5). Fungiform papillae are scattered between the filiform papillae at the tip of the tongue. They are smooth, round, mushroom-shaped, redder, and a little larger (5,7). The lateral aspects of the posterior third of the tongue are covered by foliate papillae. They are leaf-shaped structures separated from one another by an invagination of the mucous membrane (5). The circumvallate papillae are the biggest papillae. They are flat, round, mushroom-shaped entities arranged in a V-shaped design anterior to the sulcus terminalis and are about 8 to 12 in number (7,8). In addition, there are several mucosal projections on the ventral surface of the tongue, which are called plica fimbriata (7). Clinically, they may be confused with lesions related to human papillomavirus. These structures are normal residual tissues resulting from tongue development. They are fringe-like processes or small triangular flaps, located on either side of the lingual frenum (7,9).

*** Corresponding author**
Hamed Mortazavi, DDS
Department of Oral Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran
Tel: +98 9120147306
Email: hamedmortazavi2013@gmail.com

Received: 5 Jan 2025
Accepted: 15 Feb 2025

Citation to this article
Mortazavi H. They are Tongue Papillae, Not HPV-Related Lesions: More Attention, Please!. *J Iran Med Counc.* 2025;8(4):875-6.

HPV includes a broad group of double-stranded DNA viruses, which belong to the family of Papillomaviridae. Of more than 130 HPV subtypes, about 30 HPV subtypes can affect the oral mucosa. HPV is associated with a wide variety of precancerous, benign, and malignant entities as well as normal, healthy epithelium (4). The main oral HPV-related lesions are listed as: squamous papilloma, condyloma acuminatum, verruca vulgaris, multifocal epithelial hyperplasia, and squamous cell carcinoma (4,10). According to a recent systematic review and meta-analysis, the overall prevalence of HPV in oral mucosal lesions has been estimated to be 21% in Iranian patients (4). The prevalence was the highest in Rasht city (50%). This rate was 31% in squamous cell carcinoma and 8% in normal mucosa (4). Clinically, they are characterized by solitary, multiple, sessile, pedunculated, exophytic neoformations with a smooth, pointed, verrucous, or papillary surface and white/pinkish/ reddish color (10). The palate, tongue, and labial mucosa are the most affected sites in the oral cavity (10). Since the normal mucosa on the surface of the tongue is rough due to having various papillae, and the lesions related to HPV also appear as mucosal projections, it is possible that if not paying enough attention to this point, the normal appearance of the tongue may be mistaken for viral lesions. This misdiagnosis not only can lead to unnecessary treatment modalities, but also it may cause adverse effects for the patient psychologically. Therefore, the dentist's ability to recognize and make distinctions among normal tongue structures and pathologic entities has an important role in patient management.

Funding

None declared.

Conflict of Interest

There was no conflict of interest in this manuscript.

References

1. Madani FM, Kuperstein AS. Normal variations of oral anatomy and common oral soft tissue lesions: evaluation and management. Med Clin North Am 2014;98(6):1281-98.

2. Canaan TJ, Meehan SC. Variations of structure and appearance of the oral mucosa. Dent Clin North Am 2005;49(1):1-14.

3. Souza PRM, Dupont L, Mosena G, Dantas ML, Bulcão LA. Variations of oral anatomy and common oral lesions. An Bras Dermatol 2024; 99(1):3-18.

4. Aghaeipour F, Salehiniya H, Abbaszadeh H. Prevalence of human papillomavirus (HPV) in oral mucosal lesions in Iran: A systematic review and meta-analysis. J Med Virol 2021;93(11):6089-99.

5. Reginato Gde S, Bolina Cde S, Watanabe IS, Ciena AP. Three-dimensional aspects of the lingual papillae and their connective tissue cores in the tongue of rats: a scanning electron microscope study. ScientificWorldJournal 2014;2014:841879.

6. Andreeva R, Sarkar A, Sarkar R. Machine learning and topological data analysis identify unique features of human papillae in 3D scans. Sci Rep 2023;13(1):21529.

7. Chandra S, Chandra S, Chandra S, Chandra G, Chandra R, Chandra N. Text book of dental and oral anatomy, physiology and occlusion with multiple choice question. 1st ed. Jaypee Brothers; 2004.

8. Nanci A. Ten cat's oral histology: development, structure, and function. 9th ed. Elsevier;2017.

9. Altun B. Bilateral plica fumbriata variation of the tongue: a case report. EDR 2024;2(2):52-4.

10. Amato M, Santonocito S, Bruno MT, Polizzi A, Mastroianni A, Chaurasia A, et al. Oral and periodontal manifestation related during human papilloma virus infections: update on early prognostic factors. Heliyon 2024;10(10):e31061.