Regeneration, Reconstruction & Restoration

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A Solitary Papillary Lesion on the Hard Palate

Saede Atarbashi-Moghadam[1] | Maryam Mohammadalizadehchafjiri[1] | Hamidreza Moslemi[2] | Hamidreza Arefifard[1] | Raheleh Hassanizadeh [1*]

1. Department of Oral and Maxillofacial Pathology, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
2. Department of Oral and Maxillofacial Surgery, School of Dentistry, Babol University of Medical Sciences, Babol, Iran.

Corresponding Author: Raheleh Hassanizadeh, Department of Oral and Maxillofacial Pathology, School of Dentistry, Shahid Beheshti University of Medical Sciences, Daneshju Blv., Velenjak St., Chamran Highway, Tehran, Iran; **Email:** rahele.hassani@gmail.com

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1. Case report

A 33-year-old male had been referred to Shahid Beheshti Medical University (SBMU) oral and maxillofacial surgery department with an exophytic papillary yellowish-white lesions on the right hard palate extending to palatal interdental papilla between first molar and second premolar, which was measuring 1.0 × 0.4 cm. The lesion was painless and nontender with an undefined duration (Figure 1). Patient's past medical history was unremarkable. What is your diagnosis?

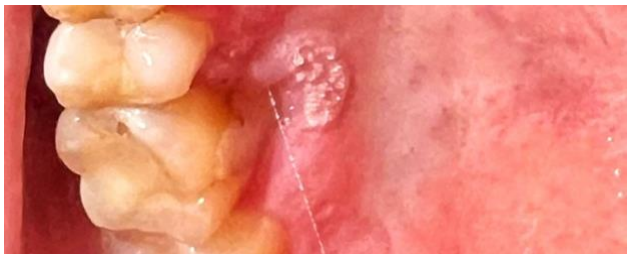

Figure 1. Solitary cauliflower-like growth on the right palatal mucosa.

2. Discussion

With the provisional diagnosis of squamous papilloma, a conservative excisional biopsy has been performed and the lesion then sent to SBMU oral and maxillofacial pathology department. The hemathoxylin and eosin sections revealed a papillary lesion lined by hyperparakeratotic epithelium with a bright orange hue in keratin layer. The underlying superficial connective tissue exhibited many macrophages with foamy cytoplasms (i.e. xanthoma cells) (Figure 2). Immunohistochemical study revealed positivity for CD68 in the xanthomatous cells (Figure. 3). The diagnosis of oral verruciform xanthoma (OVX) has been established due to clinical, histopathologic, and immunohistochemical findings. The patient remained disease-free for twenty months following surgery.

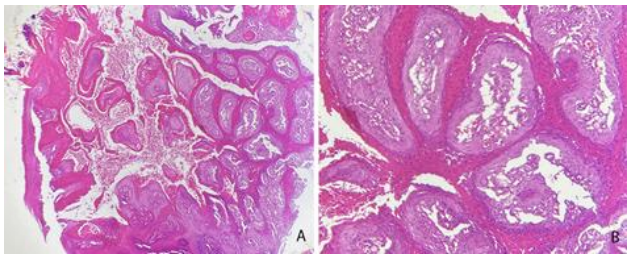

Figure 2. Photomicrograph showing papillary projections lined by parakeratinized stratified squamous epithelium along with a connective tissue core extending into the epithelium (H&E, A: 40X, B: 100X).

OVX is an uncommon benign papillary lesion with an unknown etiopathogenesis which has been first reported in oral cavity by Shafer in 1971 (1). It is believed to result from an abnormal reaction or immune response to local epithelial damage (2). Some authors suggest that vascular ectasia cause the activation of endothelial cells and pericytes in papillary dermis which cause release of cytokines and growth factors followed by degenerative alterations and accumulation of macrophages (3). Although most cases of OVX tend to occur as an isolated lesion, association with other diseases like pem-

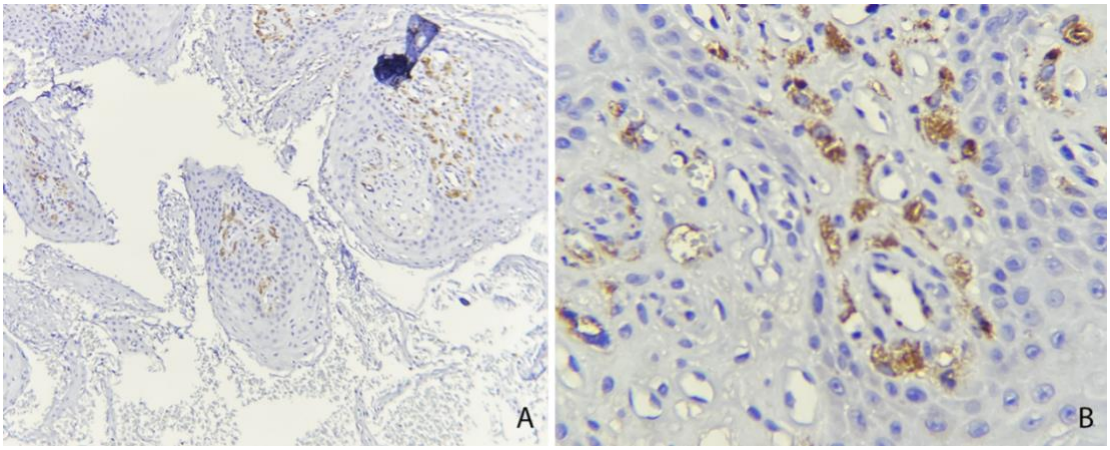

Figure 3. Photomicrograph of immunostained lesion with a monoclonal antimacrophage antibody (CD68) showing strong positivity of all xanthoma cells (IHC, A: 100X, B: 400X).

phigus vulgaris, carcinoma in situ and lichen planus has also been reported (4). The condition shows a predilection for males with a male to female ratio of 1:1.4 and middle-aged individuals with an average of 51.7 years (3). The clinical differential diagnoses include verrucous leukoplakia, verrucous carcinoma, squamous papilloma, verruca vulgaris, condyloma acuminatum, and squamous cell carcinoma (2,3). A current study by Belknap et al. showed that only 0.53% of OVXs were correctly diagnosed clinically. This finding demonstrates significance of clinicians' underscoring of clinical characteristics of OVX (5). Conservative surgical excision is considered as treatment of choice and recurrence is extremely rare (2-5). To sum up, OVX should be considered as a differential diagnosis of oral papillary lesions, and biopsy is essential for definitive diagnosis.

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Using artificial intelligence (AI)
It is declared by the authors of this manuscript that no generative artificial intelligence (AI) or AI-assisted technologies were used to generate content, ideas, or theories during the writing process of this work.

Author contributions
Saede Atarbashi-Moghadam: Conceptualization, Methodology, Investigation, Writing – Original draft, Writing – Review & editing, Supervision, Project Administration,
Maryam Mohammadalizadehchafjiri: Investigation, Methodology, Writing – Original draft, Supervision.
Hamidreza Moslemi: Investigation, Methodology, Project Administration, Resources.
Hamidreza Arefifard: Methodology, Investigation, Resources.
Raheleh Hassanizadeh: Methodology, Investigation, Writing – Original draft, Writing – Review & editing.

Conflict of interest
The authors declare that they have no competing interest.

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