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CASE REPORT

A Case Report and Literature Review on oral Verruciform Xanthoma

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Abstract

Oral verruciform xanthoma (OVX) is a rare, benign mucocutaneous lesion occurring within the oral cavity. Clinically, it manifests as a soft, slightly elevated lesion with a rough or granular surface and may appear yellowish or reddish in color. The size typically ranges from about 0.2 cm to 2.0 cm in diameter. Histologically, the lesion displays parakeratinized stratified squamous epithelium showing papillary or verrucous surface projections and thin rete ridges. The connective tissue papillae extend toward the epithelial surface and are filled with numerous foam cells, also known as xanthoma cells. These foam cells represent lipid-laden macrophages. Surgical excision is the preferred treatment method, and the prognosis is excellent, as recurrence is uncommon.

Keywords: Oral Verruciform Xanthoma, benign mucocutaneous lesion, oral cavity, xanthoma cells

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Introduction

Oral verruciform xanthoma is a benign lesion of the oral mucosa that was first reported by Shafer in 1971 [1]. The lesion is relatively uncommon, with an incidence ranging from 0.025% to 0.094% among all benign mucocutaneous lesions of the oral cavity [2]. It shows a higher occurrence in males and usually presents clinically as a sessile or pedunculated mass [3,4]. The present case report describes a case of oral verruciform xanthoma and includes a review of the relevant literature.

Case Report

A 26-year-old female presented with a complaint of swelling in the gingiva accompanied by pain and bleeding for the past one month. Intraoral examination revealed an exophytic growth on the buccal mucosa adjacent to tooth number 42. The inflammatory gingival lesion measured approximately 3 × 4 mm and extended over the vestibular surface of the clinical crown. Clinically, the lesion appeared soft, lobulated, and irregular in texture, with bleeding elicited upon stimulation. The patient's medical, surgical, and dental history were unremarkable.An excisional biopsy of the soft tissue mass was performed. Histopathological examination revealed hyperparakeratotic stratified squamous epithelium exhibiting focal spongiosis and keratin plug formation between acanthotic and elongated rete ridges. The underlying lamina propria was expanded and contained numerous collections of foamy macrophages (xanthomatous cells), which were also seen extending into the epithelium both singly and in clusters. Focal areas of the overlying epithelium displayed a basal granular layer. No granulomatous inflammation or evidence of malignancy was observed in the examined sections. Based on these histopathological findings, a diagnosis of verruciform xanthoma of the oral cavity was established (Figure 1).

Discussion

Oral verruciform xanthoma is a rare benign lesion of the oral cavity. It typically occurs in individuals between 38 and 54 years of age; however, in the present case, the lesion was identified in a 26-year-old patient. According to literature, chronic irritation resulting from factors such as alcohol consumption, tobacco use, certain medications, allergic agents, trauma, microbial infections, and dental materials may act as potential triggers for the lesion [5,6]. In the present study, local trauma within the oral cavity caused epithelial injury, and the resulting inflammatory response, accompanied by the infiltration of lipid-laden macrophages at the site of damage, was considered the predisposing factor for the development of the lesion.

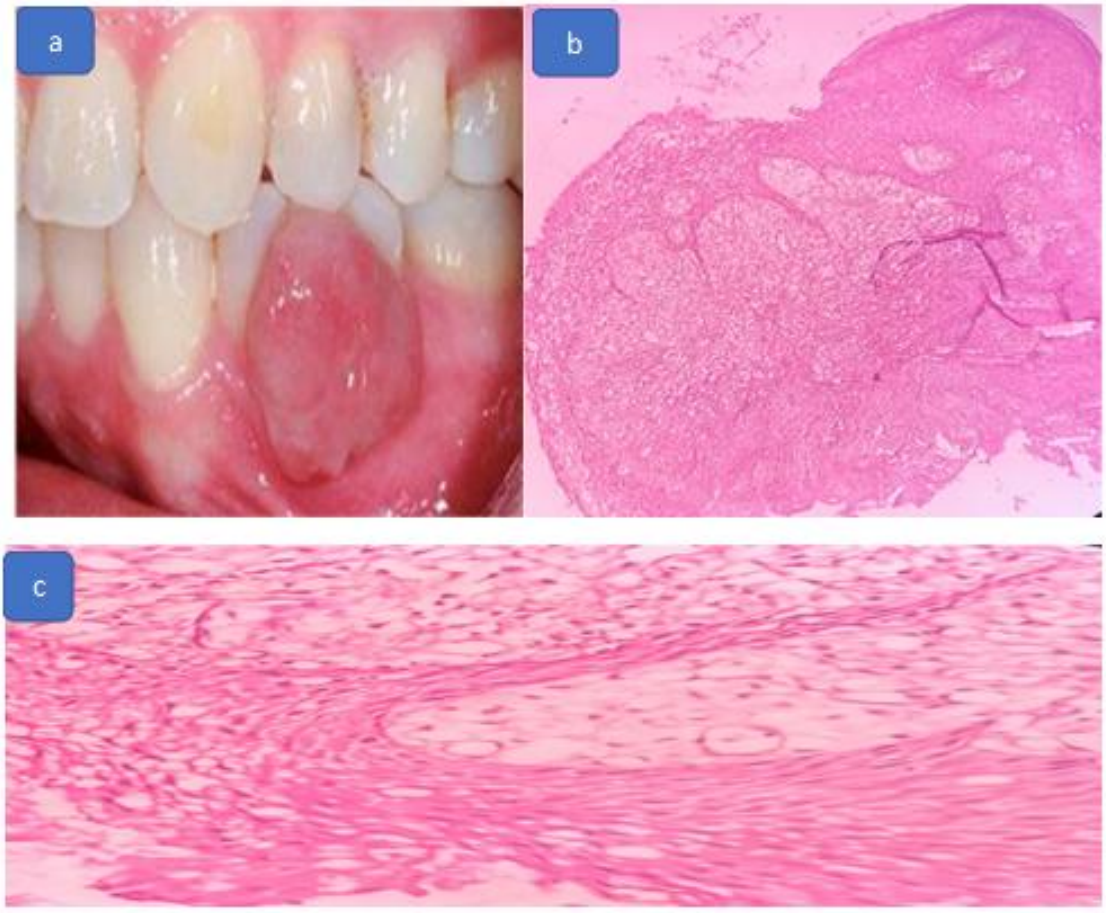

Figure 1. a) Clinical photography showing the exophytic lesion in the gingiva. b) Epithelial hyperplasia with parakeratosis and elongated rete pegs. Haematoxylin and Eosin (H&E,10X) c) Eosinophilic granular cytoplasm with eccentrically placed nuclei and are called foam cells or xanthoma cells. Haematoxylin and Eosin (H&E,40X)

Oral verruciform xanthoma usually presents as an isolated lesion, although in some cases it has been strongly associated with conditions such as discoid lupus erythematosus, dystrophic epidermolysis bullosa, pemphigus vulgaris, lichen sclerosus, congenital epidermal nevi, chronic or congenital lymphedema, graft-versus-host disease, and carcinoma in situ [7,8].

This lesion primarily affects the masticatory mucosa of the oral cavity. Commonly involved sites include the hard palate, tongue, buccal mucosa, floor of the mouth, soft palate, and the junction between the hard and soft palate. Clinically, oral verruciform xanthoma appears as a single papule or plaque with a verrucous or papillomatous surface and varies in color from reddish-pink to gray. Because of its appearance, it is often misdiagnosed as a viral wart or mistaken for premalignant and malignant lesions of the oral cavity such as verruca vulgaris, squamous papilloma, or verrucous carcinoma [9,10]. In the present case, the lesion was observed as an exophytic growth on the buccal mucosa, measuring approximately 3 × 4 mm, situated adjacent to tooth number 42. It extended onto the vestibular aspect of the clinical crown and appeared soft, lobulated, and irregular in texture. The lesion was noted to bleed

upon provocation or slight mechanical stimulation.

Histopathological features of oral verruciform xanthoma are variable and typically include a papillary or verrucous growth pattern of stratified squamous epithelium. The epithelium commonly exhibits parakeratosis, acanthosis, and hyperkeratosis. The rete ridges are thin and elongated, often extending toward the surface. The connective tissue papillae characteristically contain numerous xanthoma cells. These xanthoma cells are round to oval in shape, possess foamy cytoplasm due to lipid accumulation, and have round, regular, eccentrically placed nuclei.

In the present study, similar histopathological features were observed. The lesion showed parakeratinized stratified squamous epithelium with an underlying connective tissue stroma. The papillae extended between the epithelial strands up to the surface, covered by a thin epithelial layer. The connective tissue contained numerous foam or xanthoma cells.

Special staining with Periodic Acid–Schiff (PAS) was used to demonstrate the presence of xanthoma cells, while immunohistochemical staining with CD68 confirmed strong positivity for macrophages. In the present case, both special staining and immunohistochemical analysis were performed to confirm the diagnosis of verruciform xanthoma.

Surgical excision remains the treatment of choice. The differential diagnoses include squamous papilloma, verruca vulgaris, verrucous carcinoma, and squamous cell carcinoma [10].

Conclusion

Verruciform xanthoma is an uncommon lesion that typically occurs on the gingival mucosa. Because its clinical appearance is not distinctive, it should be considered in the differential diagnosis of verrucous or papillary oral lesions.

Statements and Declarations

Conflicts of interest

The authors declare that they do not have conflict of interest.

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