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Verruciform xanthoma on the maxillary gingiva

KEYWORDS
Verruciform xanthoma;
Gingiva;
Macrophage;
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Verruciform xanthoma is a benign tumor that is most commonly found on the gingiva.[1,2] In this report, we presented a case of verruciform xanthoma with a pink papillary surface on the buccal gingiva of tooth 16 in a 30-year-old male patient.

This 30-year-old male patient came to our oral mucosal clinic for treatment of a pink mass on the buccal gingiva of the right maxillary posterior teeth for more than 4 months. Oral examination revealed an elevated hyperplastic lesion with a pink papillary surface measuring approximately 0.3 cm in greatest dimension on the buccal gingiva of tooth 16. Although it was asymptomatic, the patient could feel it by the tongue. This brought the patient to our oral mucosal clinic for treatment. The clinical impression was either a squamous papilloma or a hyperplastic gingival lesion. After discussing with the patient and obtaining the signed informed consent, the gingival lesion was totally removed under local anesthesia. The excised gingival tissue specimen was sent for histopathological examination. Microscopically, it showed parakeratosis of the stratified squamous epithelium with a slightly papillary surface. The parakeratin plug was occasionally discovered between the two papillary epithelial projections. The epithelial ridges were elongated and showed a uniform depth. There were dilated capillaries and a moderate lymphoplasma cell infiltrate in the connective tissue papillae (Fig. 1A and B). The most specific finding was the presence of lipid-laden foamy macrophages (foam cells or xanthoma cells) in the connective tissue papillae between two epithelial rete ridges (Fig. 1C and D). The xanthoma cells contained periodic acid-Schiff (PAS)-positive and diastase-resistant granules in the cytoplasm (Fig. 1E). Moreover, the xanthoma cells were also CD68-positive (Fig. 1F), suggesting that they are cells of monocyte-macrophage lineage. The aforementioned characteristic findings confirmed the histopathological diagnosis of a gingival verruciform xanthoma.[1–5]

Belknap et al.[1] reported a large series of 212 cases of oral verruciform xanthoma; only 4 (1.9%) of 212 cases are correctly diagnosed as a verruciform xanthoma and the most common clinical impression of these 212 cases is a papillary lesion (n = 67). The present case was also suspected as a squamous papilloma clinically. By the PAS stain, the foam cells are discovered to contain PAS-positive, diastase-resistant materials, indicating that these materials are mucopolysaccharides or glycosaminoglycans rather than glycogen which is diastase-sensitive.[1] Furthermore, the foam cells are also reported to contain lipid materials by Oil Red O stain.[1] The macrophage-containing lipid materials probably come from cell membranes or organelle membranes of adjacent degenerated epithelial cells and subsequently scavenged by the tissue macrophages, because the macrophages or foam cells are confined in the connective tissue papillae between epithelial ridges.[3] The foam cells are immuno-positive for CD68, cathepsin B, CD63, and CD163 (all are macrophage markers), indicating that they are definite macrophages.[1] We have also reported a verruciform xanthoma on the

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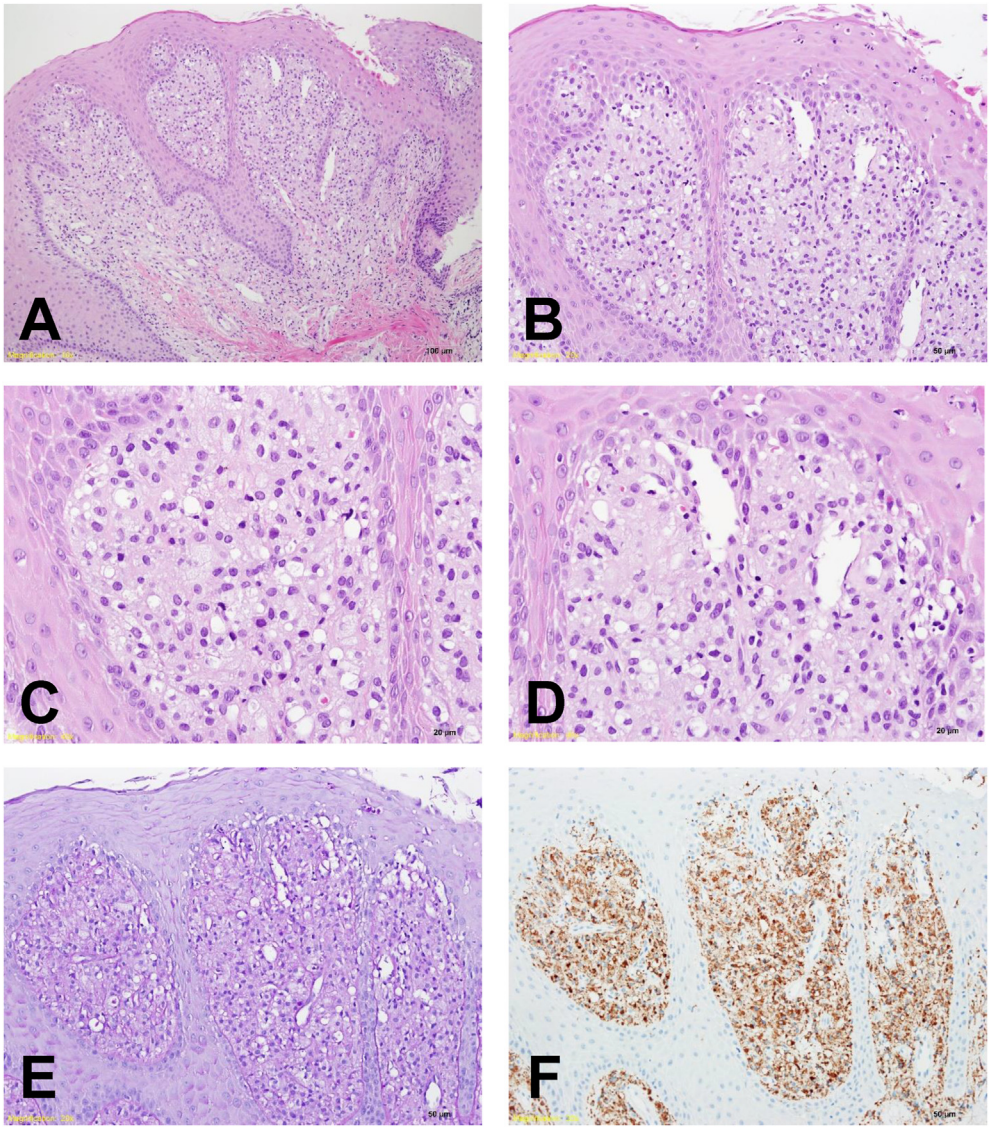

Figure 1 Histopathological and immuno-stained photomicrographs of our case of gingival verruciform xanthoma. (A and B) Medium- and high-power photomicrographs showing parakeratosis of the stratified squamous epithelium with a slightly papillary surface, parakeratin plugging between the two epithelial papillary projections, and the elongated epithelial ridges with a uniform depth. (C and D) High-power photomicrographs exhibiting dilated capillaries, a moderate lymphoplasma cell infiltrate, and accumulation of many lipid-laden foamy macrophages in the connective tissue papillae between two epithelial rete ridges. (Hematoxylin and eosin stain; original magnification; A, 10 × ; B, 20 × ; C and D, 40 ×) (E) A high-power photomicrograph demonstrating periodic acid-Schiff (PAS)-positive and diastase-resistant granules in the cytoplasm of xanthoma cells (PAS stain; original magnification; 20 ×). (F) A high-power photomicrograph revealing that the xanthoma cells were CD68-positive (Immunohistochemical stain; original magnification; 20 ×).

right posterior ventral surface of the tongue in a 69-year-old female patient and a verruciform xanthoma on the buccal gingiva between teeth 26 and 27 in a 65-year-old male patient.[4,5]

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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None.

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