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Mucus retention cyst with oncocytic metaplasia of the epithelial lining

KEYWORDS

Mucus retention cyst;
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Mucus retention cyst is an epithelium-lined cavity filled with mucus.^{1,2} Here, we reported a mucus retention cyst presented as a mucocele-like mass at the left upper labial mucosa of a 60-year-old female patient.

This 60-year-old female patient was referred to our dental clinic by a local dentist for evaluation and treatment of a mucocele-like mass at the left upper labial mucosa for 2 months. The mass was soft, slightly fluctuant, and palpable at the submucosal area of the left upper labial mucosa. It measured approximately 0.6 cm in greatest dimension. The clinical diagnosis was a mucocele. After discussing with the patient and obtaining the signed informed consent, the mass was totally excised under local anesthesia. The removed soft tissue specimen was sent for histopathological examination. Microscopically, it showed an epithelium-lined cyst in the minor labial glands of a mixed serous and mucous type (Fig. 1A). The epithelial lining exhibited oncocytic metaplasia and was composed of two to three layers of eosinophilic columnar cells that showed papillary folds into the cystic lumen. There was a lymphocytic infiltrate in the subepithelial fibrous connective tissues (Fig. 1B, C and D). The adjacent minor labial glands displayed ectasia of the excretory ducts and mucus plugs were noted in the dilated ducts. Moreover, a focal mild to moderate lymphoplasmic cell infiltrate was discovered in the interstitial and periductal connective tissues of the minor labial glands (Fig. 1E and F). The above-mentioned characteristic histologic findings were consistent with the histopathological diagnosis of

a mucus retention cyst with oncocytic metaplasia of the epithelial lining.^{1,2}

Although the immunostain is very useful for the identification of tumor cell type and origin, the diagnosis of a mucus retention cyst does not need the assistance of the immunostain.^{3–5} It is still controversial whether the mucus retention cyst is a true cyst or merely represents salivary ductal ectasia secondary to ductal obstruction (e.g., mucus plug).^{1,2} In this case, mucus plugs were frequently found in the dilated excretory ducts of the adjacent minor labial glands. Thus, salivary ductal ectasia secondary to ductal obstruction by mucus plugs was probably the etiology of formation of this mucus retention cyst. Eversole and Sabes have reported six nodular and elevated lesions on the buccal mucosa of six different patients over 50 years of age.² In all the six lesions, mucus plugs are identified in the excretory ducts of adjacent minor buccal glands and the dilated excretory ducts of each lesion consistently show prominent eosinophilic oncocytes with a double rows of nuclei. These oncocytes usually line a lumen and display papillary arborizations, thus resembling the papillary cystadenoma of the salivary gland.² Eversole and Sabes called the findings of oncocytic change of the dilated ductal lining epithelium as reactive oncocytic metaplasia secondary to ductal obstruction by mucus plugs.² The similar histologic features are also found in our case and suggest that the mucus plug-caused salivary duct obstruction may be the etiology of the mucus retention cyst. Moreover, the ductal ectasia with oncocytic metaplasia of ductal cells and the papillary projections of the epithelial lining into the lumen of the dilated duct as well as the constant finding of a lymphocytic infiltrate in the subepithelial connective tissues also look like a small Warthin tumor.^{1,2} For the solitary lesion of mucus retention cyst with oncocytic metaplasia of the epithelial lining, conservative surgical excision is the treatment of choice. There is usually no recurrence after conservative local excision of the lesion.^{1,2}

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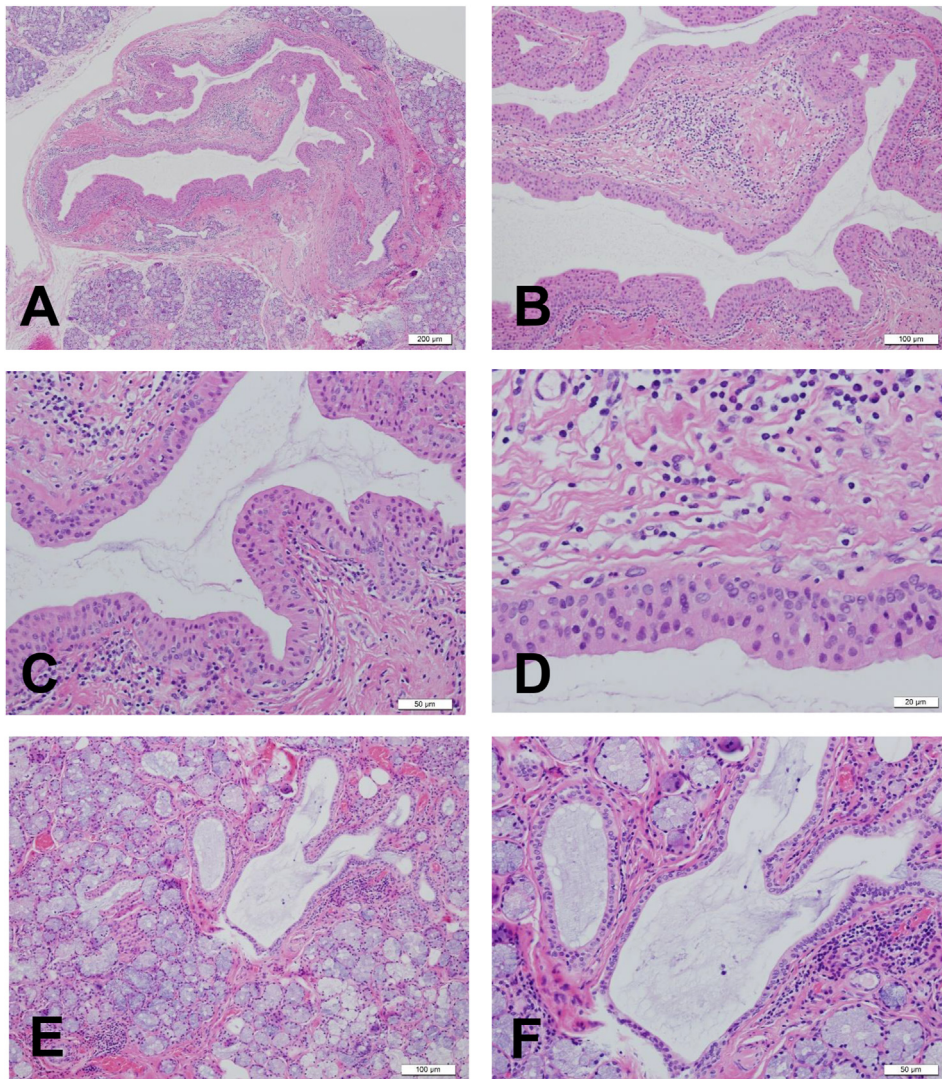


Figure 1 Histopathological microphotographs of our case of mucus retention cyst with oncocytic metaplasia of the epithelial lining. (A) Low-power microphotograph showing an epithelium-lined cyst in the minor labial glands of a mixed serous and mucous type. (B, C and D) Medium- and high-power microphotographs demonstrating the oncocytic metaplasia of the cystic epithelial lining that was composed of two to three layers of eosinophilic columnar cells and showed papillary folds into the cystic lumen. There was also a lymphocytic infiltrate in the subepithelial fibrous connective tissues. (E and F) Medium- and high-power microphotographs exhibiting ectasia of the excretory ducts in the adjacent minor labial glands and obstruction of mucus plugs in the dilated ducts. Moreover, a focal mild to moderate lymphoplasmacytic infiltrate was discovered in the interstitial and periductal connective tissues of the minor labial glands (Hematoxylin and eosin stain; original magnification; A, 4 × ; B and E, 10 × ; C and F, 20 × ; and D, 40 ×).

Declaration of competing interest

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

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