Lateral dermoid cyst of the floor of mouth: unusual radiologic and pathologic findings

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ABSTRACT

A computed tomography (CT) scan demonstrated a large lesion with mixed attenuation and scattered heterogeneous calcifications (Figure 1).

Magnetic resonance imaging (MRI) further revealed a strikingly xenotypic mass containing multiple uniformly-rounded foci, creating a “sack of marbles” appearance on cross-sectional imaging (Figure 2).

Intraoperatively, the mass was noted to be deep to the mylohyoid muscle and surrounded by extensive fibrosis that encased the right lingual nerve. The hypoglossal nerve was also adherent to the capsule of the mass, but was carefully dissected free from it and preserved.

Following en bloc removal of the mass (Figure 3), incision through the capsule of the lesion demonstrated a large cyst containing numerous regularly shaped yellow, 3mm spheroid fragments of equal size that had a paste-like consistency (Figure 4).

Histopathology revealed that the cyst contained an attenuated and keratinizing stratified squamous epithelial lining with rare underlying skin appendages, including apocrine and eccrine glands, within the cyst wall (Figure 5). These findings were diagnostic of a dermoid cyst.

At last follow-up the patient is doing well and without signs of recurrence.

DISCUSSION

Dermoid cysts of the floor of mouth are uncommon tumors found in the midline in the vast majority of cases and typically present in the second or third decades of life as a painless, slow-growing mass in the floor of mouth, submentum or anterior neck.

Only 12 cases of purely lateral cervical dermoid cysts reported in the literature.

The term “dermoid cysts” has been used as an umbrella title to describe three subtypes of congenital cysts containing keratinous squamous material, including epidermal inclusion cysts, true dermoid, and teratomatous cysts.

CT and MR imaging of dermoid cysts has been reported to show the characteristic xenotypic “sack of marbles” configuration. The smaller foci within the cyst are believed to result from a coalescence of lipid and keratinous material.

While FNA biopsy of dermoid cysts may provide sufficient diagnostic material, this method is complicated by potential sampling bias, given the copious keratinaceous cyst contents and relatively scarce epithelial-lined cyst wall. Accordingly, needle biopsies of a dermoid cyst will often yield inconclusive, variable or non-diagnostic results.

Surgical excision is the only effective treatment for dermoid cysts. The location of a dermoid cyst relative to the genioglossus, geniohyoid, mylohyoid, digastric and platysma muscles has been suggested to determine the most appropriate means of surgical excision of the mass, including intraoral, submental and submandibular approaches.

CONCLUSIONS

Laterally-situated dermoid cysts of the floor of mouth are rare lesions but should nevertheless be considered in the differential diagnosis of any lateral oral cavity or cervical lesion in both adult and pediatric patients.

FNA interpretation is limited due to the cystic nature of these masses.

Radiologic imaging, in particular MRI, may provide nearly pathognomonic findings that are valuably diagnostic and may influence surgical planning.