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Large Lipoma with Focal Cartilage Metaplasia of the Under-tongue Region

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Abstract: Lipomas are benign connective tissue tumors. They are common lesions in the human body, but they rarely appear in the oral cavity. We present a case of a 31-year-old female with a 2 months history of painful swelling of the under-tongue region, without dysphagia and dyspnea. The neoformation was surgically removed with a trans-oral approach. The pathological diagnosis was lipoma with focal cartilage metaplasia. Good healing of surgical site was observed, without complications and persistence of the lesion.

Key Words: Benign tumor, lipoma, oral cavity, oral floor, under-tongue region

Lipoma is a common benign mesenchymal tumor composed of mature adipocytes that can develop in any region containing adipose tissue. Generally, this tumor arises in the subcutaneous tissues of the back, neck, shoulders, and face (cheek or scalp).[1]

Lipomas' overall incidence in the oral cavity is between 1% and 4.4%.[2] In this anatomical region, 45% of lipomas are located at the level of the buccal mucosa, while 10.2% arises from the floor of the mouth.[3]

A large size neoformation in the floor of the mouth may interfere with speaking, swallowing, and breathing (causing dysarthria, dysphagia, or dyspnea), but lipomas are usually asymptomatic.[1–7]

Furthermore, lipomas can be classified based on their histological cell composition, presence or absence of encapsulation, and presence or absence of nearby tissue invasion. Simple lipomas make up 53.5% of fatty oral benign lesions.[8]

MATERIALS AND METHODS

A 31-year-old Caucasian female presented with a painful mass of the floor of the mouth, that had been progressively enlarging for the past 2 months (Fig. 1D). She did not have dysphagia or dyspnea. The patient reported neither a history of trauma to the floor of the mouth and was generally in good health.

Oral examination showed a soft neoformation in the under-tongue region, that caused a slight elevation of the tongue with mild restriction of its movement. The overlying mucosa was normal. The salivary flow of the submandibular duct was normal.

A computed tomographic scan revealed a smoothly marginated ovalar lipomatous formation in the under-tongue region (60 × 42 × 45 mm) (Fig. 1A-C).

A trans-oral approach surgery was performed with the patient under general anaesthesia in a supine position. A Whitehead-Jennings mouth gag was positioned to expose the oral cavity and the floor of the mouth (Fig. 1E). A vertical medial incision was made along the lingual frenulum, preserving sublingual caruncles, and the lesion capsule was identified. The neoformation was completely removed with a blunt pericapsular dissection. The lesion was noted to be yellow, homogenous, and encapsulated without invasion into the surrounding musculature and tissues. The excised mass (Fig. 1F) was measured to be about 62 × 50 × 43 mm and 59.0 g of weight, and it was sent for histopathological examination. Hemostasis was achieved with bipolar forceps, and the incision was closed affixing a pen-rose drainage. At last, a nasogastric tube was placed to guarantee alimentation, avoiding surgical site infection.

The post-operative periods were uneventful and the patients were discharged from hospital within 6 days. During the hospitalization, the patient was treated with antibiotics, steroids, and analgesics. The pen-rose was removed 2 days after surgery while the nasogastric tube was removed 3 days after surgery.

The patient had to continue an antibiotic and analgesic therapy at home; oral hygiene, soft and warm alimentation, were also recommended.

RESULTS

Microscopically, the tumor was composed of well circumscribed, encapsulated lobular mass of mature adipose tissue with fibrous septae. A single focus of metaplastic hyaline cartilaginous tissue was observed within the mass. The chondrocytes as well as the fat cells did not show any mitosis, pleomorphism or any other histological evidence of malignancy (Fig. 2D).

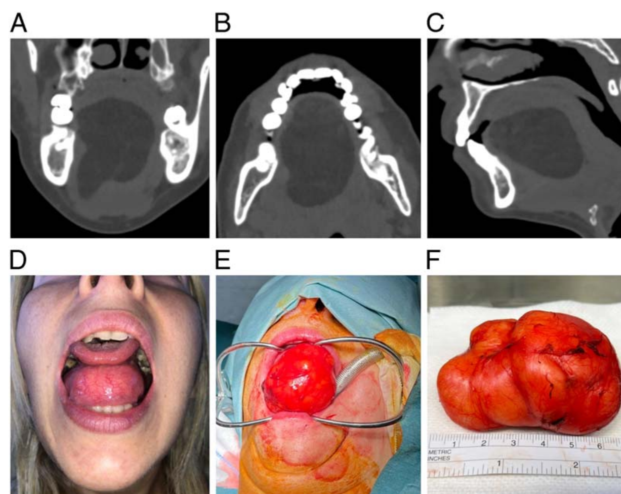

FIGURE 1. A-C, Lipoma of the floor of the mouth—pre-operative CT Scan. D, Lipoma of the floor of the mouth—pre-operative photo. E, Intraoperative photo—the view of surgical field during trans-oral surgery. F, Intraoperative photo—excised lesion.

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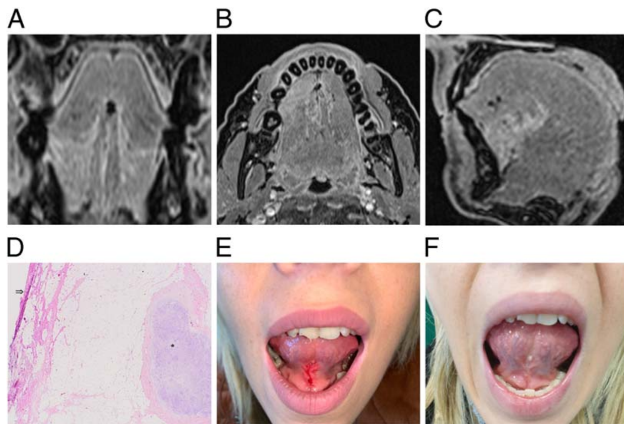

FIGURE 2. A-C, Post-operative MRI (T1 with gadolinium) performed 1 month after surgery. There was no persistence of the lesion or local complications. D, A well-circumscribed mass of adipose tissue, surrounded by a fibrous capsule (⇒) and containing a focus of hyaline cartilage (*) (H&E stain X20). E, A view of the surgical site 15 days after surgery. Good healing of the surgical site is observed, without local complications. F, A view of the surgical site 45 days after surgery. Complete re-epithelialization of the surgical site was observed.

Therefore, the diagnosis is: lipoma with focal cartilage metaplasia of the under-tongue region.

Fifteen days after surgery the patient did not report any symptoms and the clinical evaluation showed a good healing of surgical site without local complications (Fig. 2E).

She underwent an MRI with gadolinium 1 mouth after surgery which showed a complete excision of the lesion (Fig. 2A-C).

After 45 days a complete re-epithelialization of the treated area was observed, without persistence of the neoformation (Fig. 2F).

DISCUSSION

Differential diagnoses for floor of mouth' masses include a large variety of pathologies, such as developmental, inflammatory, obstructive, and neoplastic. Lipomas are included in the developmental masses' group; this group also includes dermoid cysts, branchial cleft cysts, and thyroglossal duct cysts.[9]

In the current literature, a few cases similar to the one described in this manuscript are reported.

A. Zahrani et al. described a case of a 47-year-old male with a swelling of the floor of the mouth (3.5 × 4.7 × 1.5 cm in its greatest dimension), excised through an intraoral approach, with a definitive histological diagnosis of sialolipoma.[10]

K. Gibson et al. described another similar clinical case; they reported a case of a large lipoma of the mouth floor (8.5 × 4.0 × 1.0 cm), excised with neuromonitoring of the right hypoglossal nerve, with a definitive histological diagnosis of simple lipoma without invasion of the surrounding tissues; no focal cartilage metaplasia was described.[4]

Differential diagnoses are very important and physician should base their considerations on patients' history and physical examination, imaging, and pathological findings.

In conclusion, lipoma of the floor of the mouth is a rare condition and although it is easily diagnosed clinically. Preoperative radiological exam is mandatory to evaluate the local extension of the lesion and helps physicians in the differential diagnosis. Histopathological examination stays as the gold standard for the definitive diagnosis. Surgical excision is the ideal management approach with a very low reoccurrence rate. Furthermore, a correct follow-up is mandatory, and it should include imaging controls.

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