FLOOR-OF-MOUTH DERMOID CYSTS: A TWO-CASE REPORT

KYSTES DERMOÏDES DU PLANCHER BUCCAL : À PROPOS DE DEUX CAS

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ABSTRACT

Introduction: Dermoid cysts of the floor of the mouth (DCFOM) are rare developmental lesions; fewer than 20 adult cases have been reported.

Cases : We report two adult patients, aged 24 and 18 years, presenting with a submandibular and a submental mass, respectively. MRI showed the pathognomonic “floating balls” sign in both. Complete surgical excision confirmed dermoid cyst on histology in both cases, with uneventful recovery and no recurrence.

Discussion: MRI is central to diagnosis and surgical planning in DCFOM; complete excision offers an excellent prognosis with minimal recurrence risk.

Keywords Dermoid cyst; Floor of the mouth; Magnetic resonance imaging; Surgery

RÉSUMÉ

Introduction : Les kystes dermoïdes du plancher buccal (DCFOM) sont des lésions développementales rares ; moins de 20 cas adultes ont été rapportés.

Cas : Nous rapportons deux patients adultes, âgés de 24 et 18 ans, présentant respectivement une masse sous-mandibulaire et une masse sous-mentale. L’IRM a montré le signe pathognomonique des « billes flottantes » dans les deux cas. L’exérèse chirurgicale complète a confirmé le diagnostic de kyste dermoïde à l’histologie dans les deux cas, avec des suites simples et sans récidive.

Discussion : L’IRM occupe une place centrale dans le diagnostic et la planification chirurgicale des DCFOM ; l’exérèse complète offre un excellent pronostic avec un risque de récidive minime.

Mots clés : Kyste dermoïde ; Plancher buccal ; Imagerie par résonance magnétique ; Chirurgie

INTRODUCTION

Dermoid cysts are rare benign developmental lesions arising from ectodermal inclusion during embryogenesis. Head and neck involvement accounts for about 7% of cases, and the floor of the mouth is the most common intraoral site, though intraoral location remains exceptional, with fewer than 20 adult cases published to date. Dermoid cysts of the floor of the mouth (DCFOM) typically present as slow-growing, painless masses that can mimic other cervicofacial swellings. We report two illustrative adult cases, aiming to highlight their clinical presentation and the central role of MRI in diagnosis and surgical planning.

OBSERVATIONS

Case 1:

A 24-year-old female presented with a chronic right submandibular swelling of stable size since age seven, with no history of secondary infection.

Clinical examination revealed a 4 cm doughy, poorly circumscribed mass bulging the right floor of the mouth. Wharton’s duct was patent, and the submandibular gland was palpable.

Cervical ultrasound showed a 75 × 37 mm solid-cystic mass in the right submandibular space, initially misdiagnosed as a cystic dilatation of the sublingual gland.

A second MRI, performed as the lesion had grown, revealed a 58 × 54 × 58 mm cystic mass of the right submandibular space with a fluid–fluid level and multiple spherical intraluminal formations producing the characteristic “floating balls sign,” without contrast enhancement. The mass displaced the ipsilateral submandibular gland, digastric muscles, and aerodigestive tract (Figure 1).

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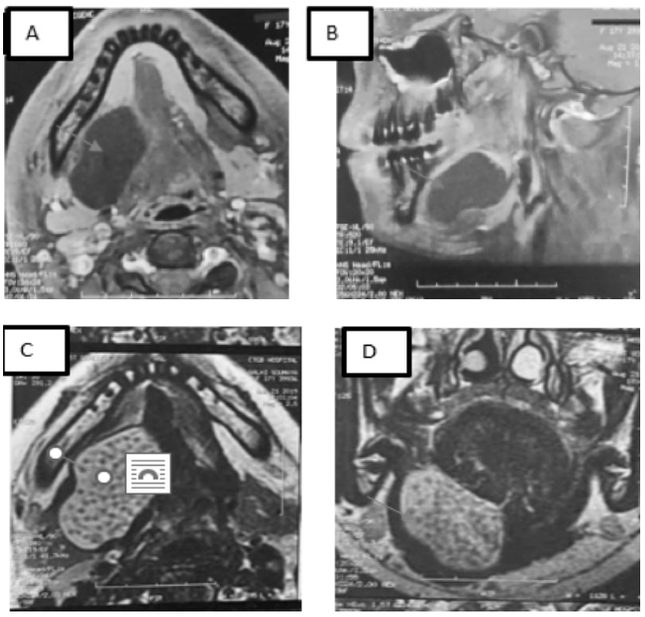


Figure 1: A/Axial and B/ sagittal T1 weighted MRI sequences demonstrating a well-circumscribed cystic lesion of the floor of the mouth, C/Axial MRI, D/Coronal T2 weighted MRI sequence showing the typical floating balls' sign

A right submandibulectomy was performed under general anaesthesia via an external cervical approach, with excision of a 6 cm soft, whitish adherent cyst extending into the floor of the mouth (Figure 2). The lingual nerve and submandibular duct were preserved, and an 8-day course of amoxicillin-clavulanic acid antibiotic therapy was given.

Histopathology confirmed a dermoid cyst, and follow-up at one and three months showed good healing without recurrence.

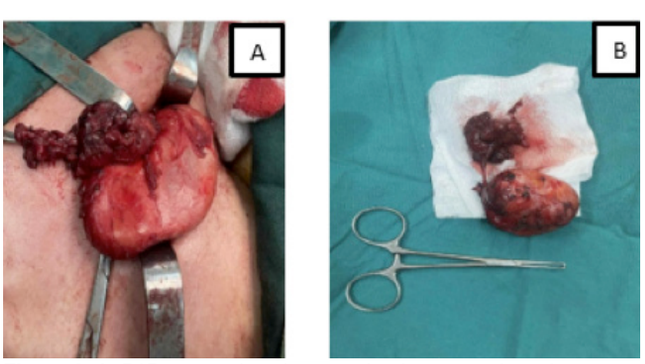


Figure 2: A+B/ Peroperative photographs demonstrating a large cystic mass in close contact with the right submandibular gland

Case 2:

An 18-year-old man was referred for an incidental 3 cm submental mass, mobile on swallowing but fixed to the tongue, without inflammatory signs. Cervical ultrasound showed a non-specific multinodular midline formation. MRI revealed a well-circumscribed, multiloculated cystic lesion of the floor of the mouth measuring 34 × 27 × 25 mm, hyperintense on T1 and T2 with signal loss on fat-suppressed sequences, consistent with a lipid-rich dermoid cyst (Figure 3). The cyst was surgically excised via a cervical approach; histopathology confirmed dermoid cyst without malignancy. Follow-up at one, two, and six months showed good recovery without complications. Written informed consent for publication of clinical data and images was obtained from both patients.

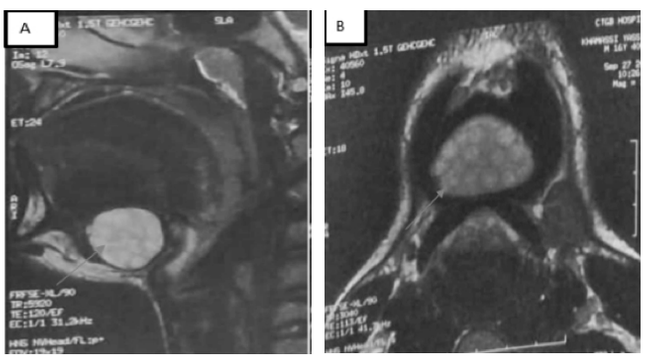


Figure 3: A/Sagital B/ Axial T2 weighted MRI sequences demonstrating a well-circumscribed cystic lesion of the floor of the mouth

DISCUSSION

Dermoid cysts are rare benign developmental cysts [1,2] resulting from ectodermal inclusion during the fusion of branchial arches or midline embryonic structures, and are categorized as epidermoid, dermoid, or teratoid according to their histological content. Head and neck involvement is observed in only 7% of cases, and oral cavity involvement is particularly uncommon; DCFOMs represent the predominant intraoral location. Clinical presentation [3] is often subtle, typically discovered incidentally or manifesting as a non-tender mass, and may be misdiagnosed as ranulas, thyroglossal duct cysts, or other cystic masses of the floor of the mouth [4,5], as clinical findings and ultrasonography alone are generally insufficient for diagnosis. Imaging plays a central role in diagnosis and surgical planning. Ultrasound provides an initial non-invasive assessment but is not contributive for deep anatomical relationships. CT may reveal a hypodense lesion with the characteristic "sack of marbles" appearance. MRI, however, is the reference modality, allowing precise characterization of cyst content and capsular boundaries and reliable differentiation from other cystic lesions such as epidermoid cysts, plunging ranula, vascular malformations, and thyroglossal duct cysts [6,7,8]; dermoid cysts typically appear as well-circumscribed, midline lesions hyperintense on T1- and T2-weighted images with minimal or no contrast enhancement [9]. The position of the cyst relative to the mylohyoid muscle determines the surgical approach: sublingual lesions are generally managed intraorally, while submental lesions, as in our second patient, more often require a cervical approach [10]; mixed or large lesions may require a combined approach. In large lesions, imaging also helps anticipate airway involvement and intubation difficulties, particularly for sizeable masses causing functional impairment as reported in other series [11,12]. Surgery, with complete excision of the capsule, remains the treatment of choice

[1,6], tailored to the lesion's size and location; definitive diagnosis is confirmed histologically [3,6,13], showing a cyst lined with stratified squamous epithelium containing sebaceous or sweat glands and hair follicles. The prognosis is excellent after complete excision, with recurrence being exceptional, as similarly reported in other young adult cases [14]; malignant transformation is exceptional in cervicofacial dermoid cysts. Recurrence is mainly related to incomplete excision or capsular rupture, and large or deeply extending lesions that make dissection difficult [15].

CONCLUSION

DCFOM are rare benign lesions requiring complete surgical excision to prevent functional impairment. MRI remains the cornerstone of preoperative evaluation, guiding both diagnosis and surgical strategy. Additional case reports are needed to further refine the clinical and radiological characterization of this rare entity.

Conflict of interest

the authors declare no conflict of interest.

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