An unusual case of a dermoid cyst of the floor of the mouth in a 73-year-old patient: Case report

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ABSTRACT

Dermoid cysts are masses derived from tissue of the ectoderm characterized by having associated attached structures on its wall. They are slow growing benign lesions that rarely appear on the floor of the mouth, most diagnosed in young adults.

This article denotes the case of a 73-year-old female patient with a dermoid cyst on the floor of the mouth, corresponding to an incidental finding on head MRI.

The diagnosis was achieved by contrast-enhanced CT scan of the neck that showed pathognomonic images of a dermoid cyst and corroborated intraoperatively with anatomopathological confirmation. The definite treatment of a dermoid cyst is surgically, in this case done through cervical approach.

This article demonstrates that this is a differential diagnosis to consider for masses in this location, even in older patients.

Keywords: Dermoid cyst; Mouth floor; Case report; 73-year-old patient

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INTRODUCTION

Dermoid cysts are rare lesions derived from ectodermal elements. They are formed by a lumen lined by squamous epithelium containing one or more associated skin appendages such as hair follicles or sebaceous glands[1;4]. The head and neck region is the third most common location, accounting for approximately 7% of all dermoid cysts[6]. The most affected sites are the orbits, the oral cavity, and the nasal fossae[2;3].

Dermoid cysts usually appear between the second and third decades of life and according to the current literature, present as slow-growing, soft, painless masses that cause patients to seek medical help only when they feel a mass in these areas[8]. More symptomatic cysts usually lead to complaints of difficulty with swallowing solid foods[7]. A sudden increase in size can be associated with the onset of puberty, when the sebaceous content of the glands increases at the level of the dermoid cyst[7]. Larger cysts, although infrequent, can lead to complications such as dysphagia, dysphonia, and dyspnea due to the effects and location of a mass[3]. Treatment comprises complete surgical excision, and the recurrence rate is 3%[7], although it can increase to 20% after surgical excision if a secondary infection occurs in the cyst[7]. The selection of the surgical technique depends on the cyst location and size[8]. Intraoral and cervical approaches are preferred for sublingual and submandibular cysts, respectively[8]. However, the cervical approach can be applied for larger sublingual cysts[8]. The intraoral approach is the most popular according to the literature because its esthetic and functional results are superior to those of the cervical approach[8]. However, relapse rates do not differ between these techniques. Although dermoid cysts have been identified in the floor of the mouth in newborns and even in patients in the seventh decade of life, the incidence being the highest among individuals aged to 15 to 35 years and the mean age at diagnosis being 32 years.[9,10]

OBJECTIVES

This report describes a 73-year-old woman with a dermoid cyst in the floor of the mouth. The imaging, histological, and therapeutic aspects of the disorder are discussed, with the aim of arriving at the correct diagnosis and choosing the right approach to treat these lesions, even when they arise in older individuals.

MATERIALS AND METHODS

The patient's primary care physician referred her to the otorhinolaryngology outpatient clinic. We reviewed the data from her digital medical records and her complementary diagnostic test results. We also searched the PubMed and UpToDate databases, as well as the relevant literature.

RESULTS

This 73-year-old woman without any relevant medical history was referred to our otorhinolaryngology clinic due to an incidental finding on head MRI. She presented with a complex cystic lesion in the floor of the oral cavity, with peripheral signal enhancement after gadolinium enhancement (Figure 1).

She was asymptomatic and denied dysphagia, dysphonia, and dyspnea. An objective inspection of the oral cavity revealed a palpable mass of ~ 4 cm in the midline of the floor of the mouth with well-defined margins, and cystic consistency. It was painless and mobile on palpation. No other masses were detected. The patient underwent neck CT with contrast, which revealed a 27 × 22 × 30-mm unilocular, non-nodular, cystic lesion centered in the sublingual space, with a thin and regular wall, without significant enhancement. The mass pulled the genioglossus and mylohyoid muscles away from the midline. It contained heterogeneous hypodense fat, with multiple probable calcified skin elements, and a sac-of-marbles appearance that is pathognomonic of dermoid cysts (Figure 2).

The patient underwent surgery through the cervical approach with a suprahyoid skin incision for complete cyst excision (Figure 3). Macroscopic assessment of the lesion revealed a unilocular cystic mass of 3 × 2.5 × 1.5 cm (Figure 4). The microscopic appearance was compatible with a dermoid cyst, formed by squamous epithelium with keratin material and associated sebaceous glands. Signs of chronic inflammation and a giant-cell reaction suggested a history of microscopic rupture of the wall. Evidence of malignancy was not observed (Figure 5). The patient recovered uneventfully and has remained asymptomatic, without signs of lesion recurrence.

DISCUSSION

Dermoid cysts can be of congenital or acquired origin. The congenital form is derived from epithelial cells sequestered during embryonic development. The acquired form develops through the implantation of epithelial cells in adjacent tissues due to trauma or iatrogenic causes.[5] The present patient had no history of trauma or previous surgery in that anatomical location; therefore, the cyst appeared to be of congenital origin. These cysts are usually diagnosed in young adults, with a higher incidence in individuals aged 15 to 35 years.[5] However, they can appear at any age, as in the present 73-year-old patient. Thus, they should be considered in the differential diagnosis of masses in this location, regardless of age. Although dermoid cysts are typically painless, larger cysts can cause complications such as dysphagia, dysphonia, or dyspnea. The cyst described

FIGURE 1
Preoperative MRI with images of the dermoid cyst in the floor of the oral cavity
A and B, coronal and sagittal planes, respectively

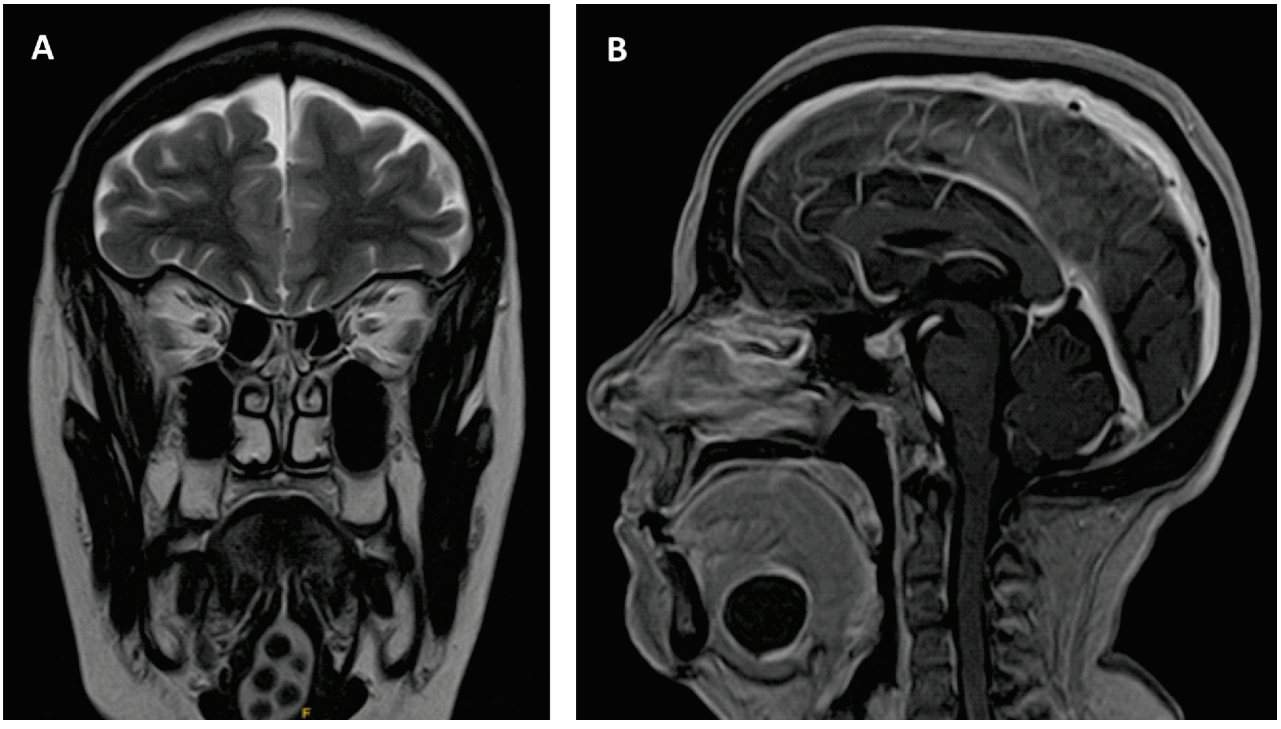


FIGURE 2
Preoperative contrast-enhanced computed tomography images of dermoid cyst in floor of oral cavity
Cyst is 27 × 22 × 30 mm and has sac-of-marbles appearance. A and B, Sagittal and axial planes, respectively.

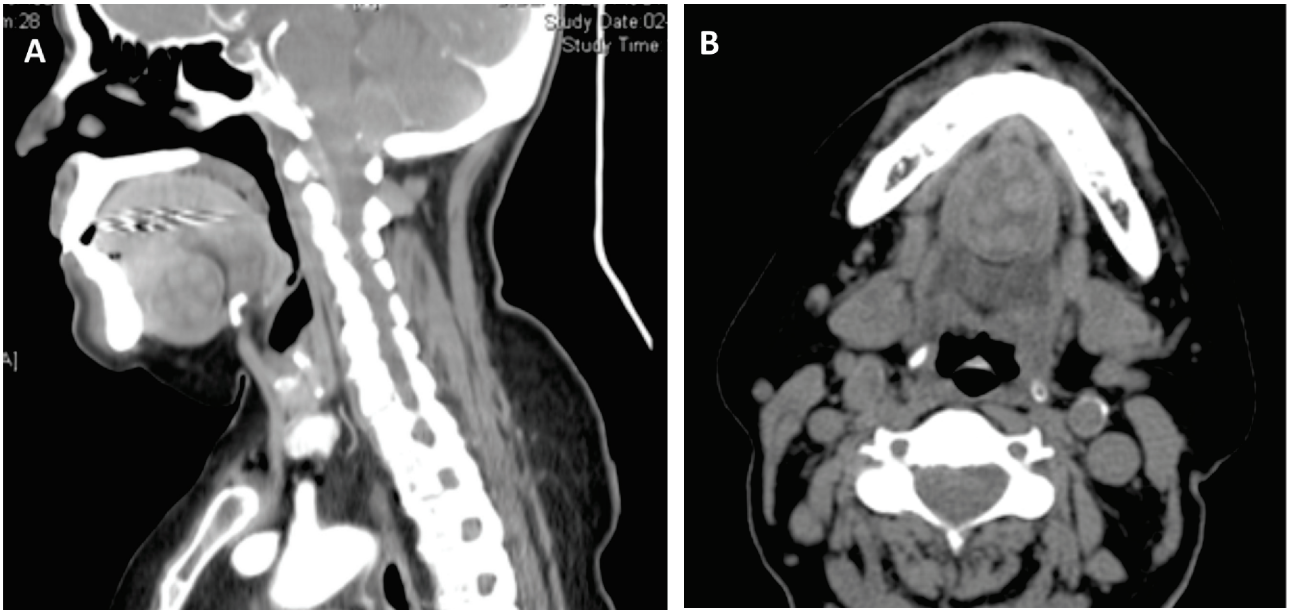


FIGURE 3
Intraoperative images of dermoid cyst excision from base of oral cavity through cervical approach

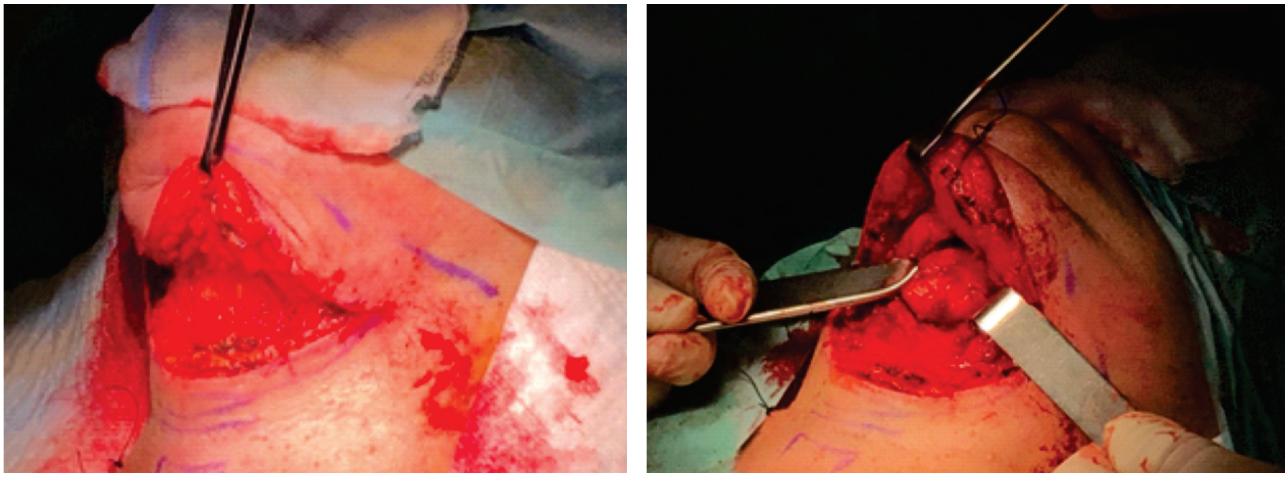
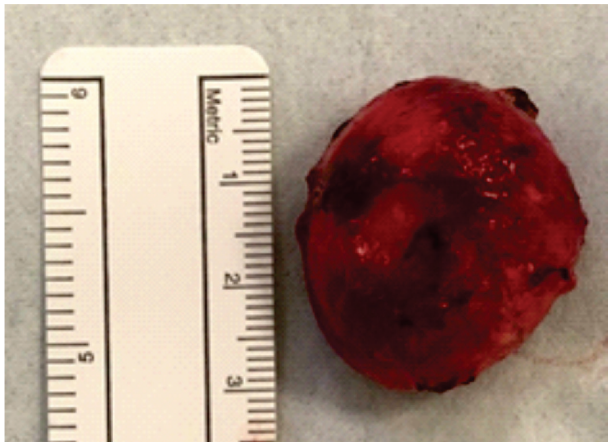
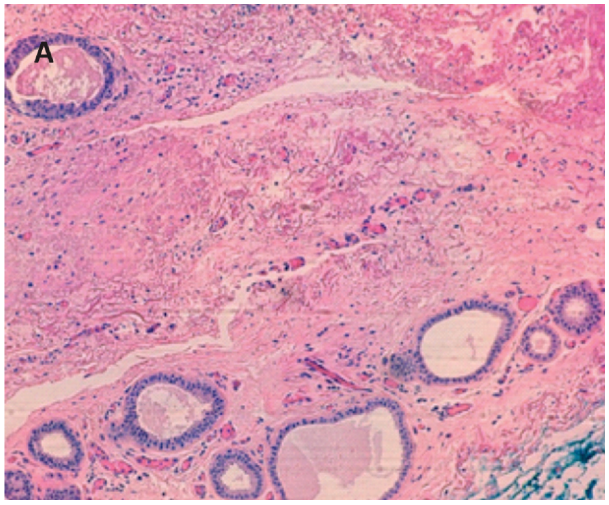


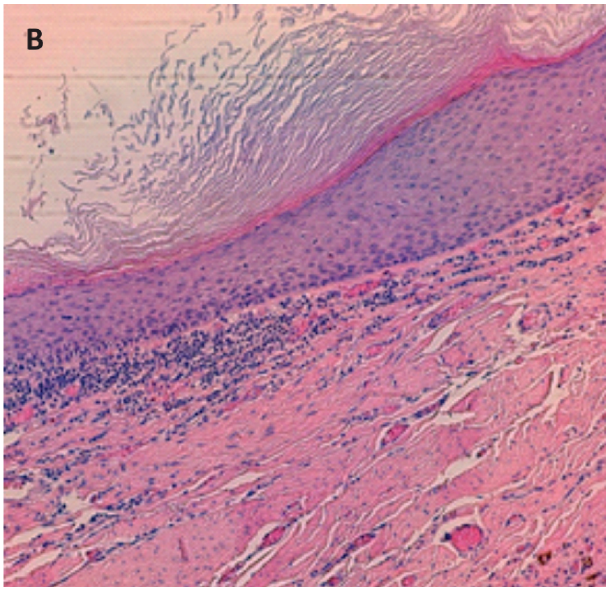
FIGURE 4
Macroscopic assessment of lesion shows 3 × 2.5 × 1.5 cm unilocular cystic mass



herein did not extend into the airway nor displace the tongue; hence, the patient was asymptomatic. Malignant transformation is rare, occurring at a rate of < 5%.[3] Therefore, lesion excision is indicated[5] as it was for the present patient. Neck CT imaging is essential because it aids in the differential diagnosis of these types of lesions. Dermoid cysts appear in CT as thin-walled unilocular masses containing homogeneous and hypoattenuated material, with multiple hypoattenuated fat nodules that create the pathognomonic appearance of a sac of marbles[6], as seen in the present cyst. Moreover, imaging assists in the planning of the optimal surgical approach, considering the cyst's size and anatomical location. Surgery for small dermoid cysts (< 6 cm) located above the mylohyoid muscle is possible via an intraoral approach and dermoid cysts located below this muscle may require a cervical approach.[3,5]

FIGURE 5
Microscopy images of dermoid cyst (10× magnification)
A, Associated gland annex structures. B, Wall of cyst comprises squamous epithelium with keratin material.





Although the cyst in the present patient was not large, it pulled the mylohyoid muscle away from the midline, thus necessitating a cervical approach. Our patient was definitively diagnosed by anatomopathological confirmation of the surgical specimen, whose histology findings were compatible with a dermoid cyst without evidence of malignancy.

CONCLUSION

This report aimed to emphasize the importance of considering dermoid cysts among the differential diagnoses of masses located in the head and neck region, regardless of patients' age. We also aimed to reinforce the importance of imaging for the accurate diagnosis and optimal approach for these lesions, to define the imaging and anatomopathological findings that are characteristic of dermoid cysts, and emphasize the unusual age of disease onset in this specific patient.

Conflict of Interest

The authors declare no conflict of interest regarding this article.

Data confidentiality

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

Human and animal protection

The authors declare that the followed procedures complied with regulations established by the Ethics and Clinical Research Committee and according to the Helsinki declaration of the World Medical Association.

Privacy policy, informed consent and approval by the ethics committee

The authors declare having written consent for the use of patients' photographs in this article.

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Availability of scientific data

There are no publicly available datasets related to this study.

Abbreviations:
CT- computed tomography
MRI - magnetic resonance imaging

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