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ENT

KEY WORDS: Dermoid cyst, Floor of mouth, Oral cyst, Sublingual gland, Intraoral excision

ALL SWELLINGS IN THE FLOOR OF THE MOUTH ARE NOT RANULA: A CASE REPORT FROM A TERTIARY CARE HOSPITAL IN BHUBANESWAR

Dr Stallin Das Prof &HOD.

Dr Rajlaxmi Panigrahi

Dr Amruta Jena

Dr Anandakalyani Jena

ABSTRACT

Background: A dermoid cyst of the floor of the mouth is a rare developmental lesion arising from ectodermal inclusion during embryogenesis. Clinically, it may mimic more common cystic lesions such as ranula, cystic hygroma, or branchial cyst, making accurate diagnosis essential. **Case Report:** We report the case of a 28-year-old female who presented with a slowly progressive, painless swelling in the right floor of the mouth for three months. Clinical examination revealed a bluish cystic lesion measuring approximately 5 × 4 cm, causing mild tongue displacement. Ultrasonography showed a well-defined hypoechoic cyst without vascularity, suggestive of a benign cystic lesion. The patient underwent intraoral excision of the cyst along with the sublingual gland under general anesthesia in the Department of ENT, Hi-Tech Medical College and Hospital, Bhubaneswar. Histopathology confirmed the diagnosis of a dermoid cyst of the floor of the mouth. The postoperative period was uneventful, and no recurrence was observed during six months of follow-up. **Conclusion:** Dermoid cysts, though rare, should be considered in the differential diagnosis of cystic swellings of the floor of the mouth. Complete surgical excision remains the definitive treatment to prevent recurrence.

INTRODUCTION

A swelling in the floor of the mouth is most commonly attributed to a ranula, which arises from the sublingual salivary gland due to mucus extravasation or ductal obstruction. However, several other cystic lesions - including dermoid cysts, cystic hygroma, branchial cysts, and thyroglossal duct cysts - can present with similar clinical features, making diagnosis challenging.

Dermoid cysts of the floor of the mouth arise from ectodermal inclusion during embryonic development and are far rarer than ranulas. While ranulas constitute approximately 6% of all salivary cysts, dermoid cysts of the oral cavity account for less than 1% of all dermoid lesions [1,2]. Their soft, fluctuant nature may mimic the classical "frog belly" appearance seen in ranulas, leading to diagnostic confusion.

Given these overlapping presentations, accurate differentiation is crucial for appropriate management. Here, we report a case of a dermoid cyst of the floor of the mouth that clinically resembled an oral ranula.

Case Report

A 28-year-old female presented to the Department of ENT, Hi-Tech Medical College and Hospital, Bhubaneswar, with a painless swelling in the right floor of the mouth for three months. The swelling gradually increased in size and caused mild discomfort during swallowing and speech.

On intraoral examination, a well-defined, fluctuant, bluish swelling measuring about 5 × 4 cm was noted on the of the floor of the mouth, extending toward the midline. The overlying mucosa was intact, and the lesion caused mild displacement of the tongue to the left. The swelling was non-tender, cystic, and without bruit or pulsation. Salivary flow from the right sublingual duct appeared reduced.

No cervical lymphadenopathy or external neck swelling was present. Needle aspiration yielded thick, cheesy, keratinous material suggestive of a dermoid cyst. Ultrasonography demonstrated a well-circumscribed cystic lesion without septations or vascularity, consistent with a benign developmental cyst.

Surgical excision under general anesthesia was planned. A transoral approach was used. A mucosal incision was made in the right floor of the mouth, followed by blunt dissection. The cyst was identified and carefully separated from surrounding tissues. The sublingual gland was removed en bloc with the cyst to ensure complete excision. Hemostasis was secured, and primary closure was performed with absorbable sutures. Histopathological examination revealed a cyst lined by stratified squamous epithelium filled with keratinous debris and chronic inflammatory cells, confirming the diagnosis of a dermoid cyst.

The postoperative period was uneventful. The patient was discharged on postoperative day three and followed up for six months with no recurrence.

Fig. 1 Pre Op

Fig. 2 Intra Op

Fig. 3 Post Op

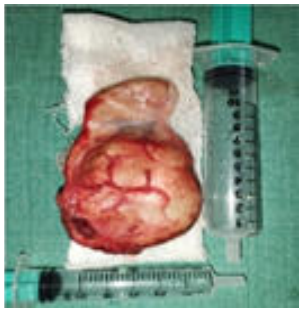

Fig. 4 cyst removed

DISCUSSION

Dermoid cysts of the floor of the mouth are rare developmental anomalies arising from ectodermal inclusion during embryogenesis. Although uncommon, they remain significant in the differential diagnosis of midline or paramedian cystic swellings of the oral cavity due to their clinical similarity to ranula, cystic hygroma, epidermoid cysts, and thyroglossal duct cysts [5,6].

Recent studies emphasize the importance of high-resolution imaging, particularly MRI, for evaluating dermoid cysts. MRI provides excellent soft-tissue contrast and helps determine the relationship of the lesion with the mylohyoid and geniohyoid muscles, thereby guiding the choice of surgical approach [7]. While ultrasonography is valuable as an initial modality, it is less reliable in assessing deep fascial involvement.

Fine-needle aspiration cytology (FNAC) may support the diagnosis when keratinous or sebaceous material is obtained. However, definitive diagnosis relies on histopathology, which typically shows a keratin-filled cyst lined by stratified squamous epithelium [8].

Complete surgical excision is the gold standard for treating dermoid cysts. The intraoral approach is preferred for lesions situated above the mylohyoid muscle because it offers favorable cosmetic outcomes and minimal morbidity [9]. Larger lesions or those extending into the submental or submandibular spaces may require an external cervical approach for adequate exposure [10].

Recent literature also reports promising results with **endoscopic-assisted transoral excision**, offering improved visualization and minimally invasive access for moderately large cysts [11]. Recurrence is rare when the cyst is completely excised. Although dermoid cysts are benign, rare cases of malignant transformation have been documented, underscoring the importance of histopathological evaluation [12].

In the present case, ultrasonography suggested a benign cystic lesion above the mylohyoid muscle. Complete intraoral excision with removal of the sublingual gland led to excellent recovery and no recurrence, consistent with outcomes described in recent studies.

CONCLUSION

Dermoid cysts of the floor of the mouth, although rare, should always be considered when evaluating cystic swellings in this region. Careful clinical assessment supported by imaging plays a crucial role in accurate diagnosis. Complete surgical excision, preferably via an intraoral approach for appropriately placed lesions, offers excellent outcomes and low recurrence rates.

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