

## Sublingual dermoid: Rare case report

Published on 11.07.2017

**DOI:** 10.1594/EURORAD/CASE.14445

**ISSN:** 1563-4086

**Section:** Head & neck imaging

**Area of Interest:** Head and neck

**Procedure:** Education

**Procedure:** Diagnostic procedure

**Imaging Technique:** Percutaneous

**Imaging Technique:** Fluoroscopy

**Imaging Technique:** MR

**Imaging Technique:** Ultrasound

**Special Focus:** Tissue characterisation Congenital

Case Type: Clinical Cases

**Authors:** Dr Shailesh Rohit DMRD, DNB, Dr Anjali Singh

MD path, Dr Neha Patel MS

**Patient:** 2 years, female

### Clinical History:

A 2-year-old female patient presented with progressively increasing swelling in the submental region since birth (Fig. 1). There was no previous history of trauma or surgery to the Head & Neck region. This swelling appeared more prominent on crying.

### Imaging Findings:

Ultrasound of the neck shows a 33 x 17 mm well-defined anechoic lesion with multiple intralesional echogenic foci in the submental region extending into the sublingual space. There was no evidence of internal vascularity (Fig. 2).

MRI of the neck shows a well-defined T1 hypointense, T2 and STIR hyperintense lesion with multiple T1 hyperintense foci within the lesion giving a 'sac of marbles' appearance. The T1 hyperintense globules suppress on a fat saturation sequence (Fig. 3 a, b, Fig. 4 a, b).

The findings of a cystic lesion containing fat globules on MRI were suggestive of a dermoid/ epidermoid cyst. Correlation with cytology or histopathological examination was recommended.

The patient underwent surgical excision and a dermoid cyst was diagnosed on histopathological examination by demonstrating orthokeratinised stratified squamous epithelium lining the cyst with sebaceous glands in connective tissue (Fig. 5).

### Discussion:

Epidermoid/ dermoid cysts of the oral cavity represent less than 0.01% of all oral cavity cysts. The cyst is described as epidermoid when the lining consists solely of epithelium, dermoid when skin adnexa are present and teratoid when other tissues such as muscle, cartilage, or bone are present (1, 2). Although these lesions typically manifest during the second or third decade of life they may present at birth with equal frequency in males and females.

Clinically, dermoid cysts usually present as a painless slow-growing mass in the sublingual, submental or

submandibular region [3]. Dermoid cysts of the oral cavity, either sublingual or submental, start in the midline but may extend laterally and inferiorly, attaining a large size before presentation. There may be a sudden increase in their size at the onset of puberty due to greater sebum secretion by sebaceous glands or they may present with secondary cyst infection due to blockage of salivary glands within the cyst or by implantation of oral microbials into the cyst through trauma causing pain, trismus, fever, dysphagia, odynophagia and cervical lymphadenopathy [4]. These patients may also present with difficulty chewing and swallowing if lesions attain a large size.

Ultrasound reveals a cystic mass with intracystic components in the form of calcification and fat globules. However, more detailed anatomical and pathological evaluation is possible with CT or MRI which can be of great help prior to surgery. Multiple intracystic fat globules are seen giving an appearance of a 'sac of marbles' which is the classical sign of a dermoid cyst on US, CT and MRI [5, 6].

Treatment is by enucleation via an intraoral or extraoral approach. An intraoral approach is recommended by most authors for sublingual cysts of small or moderate dimensions (<6cm) above the mylohyoid muscle, whereas an extraoral approach is preferred for larger sublingual cysts (>6cm) [7]. Overall prognosis is excellent and the incidence of recurrence is very low unless the cyst is closely related to the hyoid bone/genial tubercle. Malignant degeneration is said to occur in dermoid cysts with an incidence rate of around 5% in the literature [8].

There is a wide differential for cystic lesions in the floor of the mouth. An understanding of their radiological features, anatomical location and underlying pathology helps establish the final diagnosis.

This case is of interest due to its rare anatomical location and important to consider in the differential diagnosis of a floor of mouth lesion.

**Differential Diagnosis List:** Sublingual dermoid cyst., Epidermoid cyst, Ranula

**Final Diagnosis:** Sublingual dermoid cyst.

#### References:

- I. Meyer (1955) Dermoid cysts (dermoids) of the floor of the mouth. Oral Surgery, Oral Medicine, Oral Pathology, 8(11):1149-64 (PMID: [13266349](#))
- Hills SE, Maddalozzo J (2015) Congenital lesions of epithelial origin. Otolaryngologic clinics of North America 48(1):209–223 (PMID: [25439555](#))
- Patel H, Mayl J, Chandra B, Pritchett C, Chandra T. (2016) Dermoid of the oral cavity: case report with histopathology correlation and review of literature. J Radiol Case Rep 2016 Dec; 10(12): 19–27. (PMID:[28580062](#))
- Jain H, Singh S, and Singh A. (2012) Giant Sublingual Dermoid Cyst in Floor of the Mouth. Maxillofac Oral Surg Jun; 11(2): 235–237 (PMID: [23730076](#))
- Edwards RM, Chapman T, Horn DL, Paladin AM, Iyer RS. (2013) Imaging of pediatric floor of mouth lesions. Pediatric radiology 43(5):523–535 (PMID: [23429804](#))
- Ikeda K, Koseki T, Maehara M, et al. (2007) Hourglass-shaped sublingual dermoid cyst: MRI features. Radiation medicine 25(6):306–308 (PMID: [17634886](#))
- El-Hakim IE and Alyamani A. (2008) Alternative surgical approaches for excision of dermoid cyst of the floor of mouth. International Journal of Oral and Maxillofacial Surgery 37(5):497-9 (PMID: [18272345](#))
- Zachariades N, Skoura-Kafoussia C (1990) A life threatening epidermoid cyst of the floor of the mouth. J Oral Maxillofac Surg 48:400 (PMID: [2313447](#))

**Figure 1**

**a**



**Description:** Swelling in submental region. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.

**Figure 2**

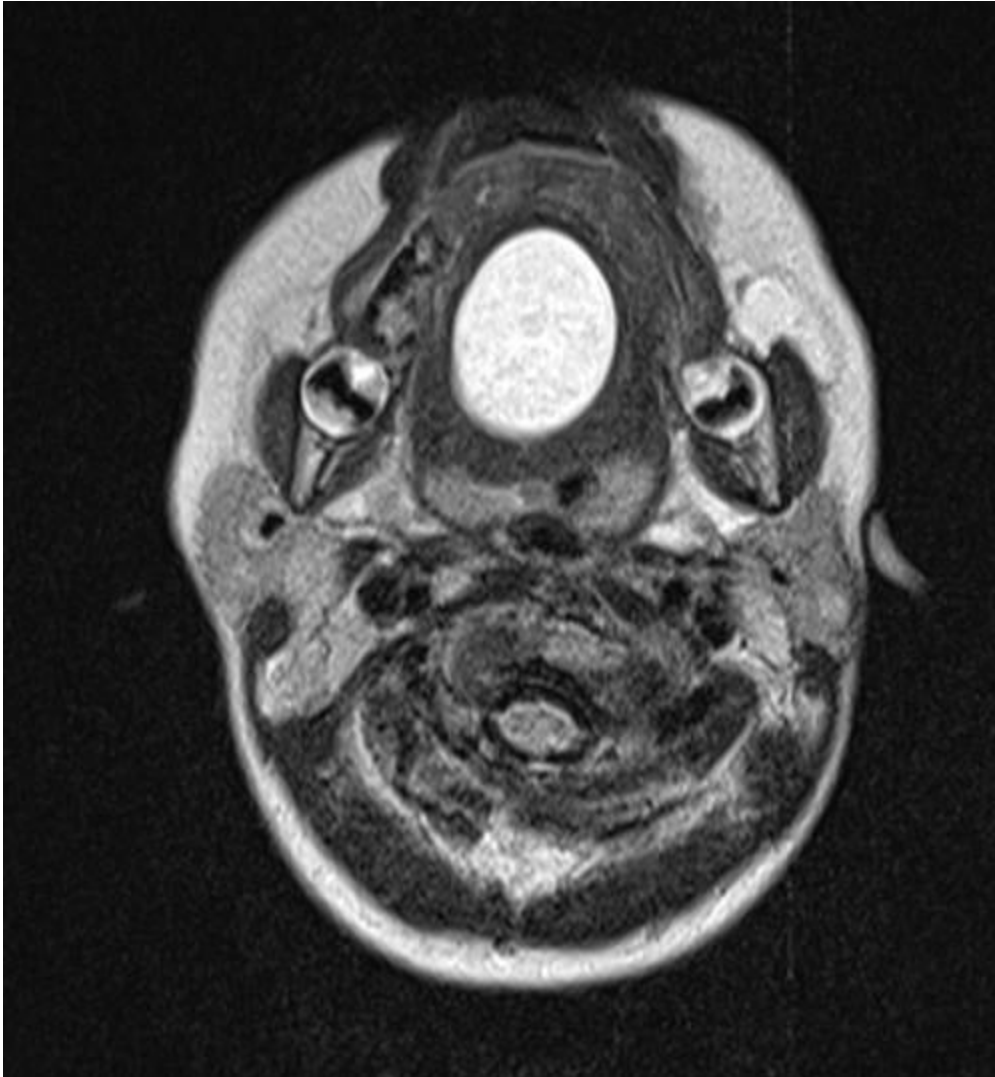
a



**Description:** Ultrasound of the neck shows a well-defined 3.3 x 1.6 cm lesion containing echogenic globules. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat , India.

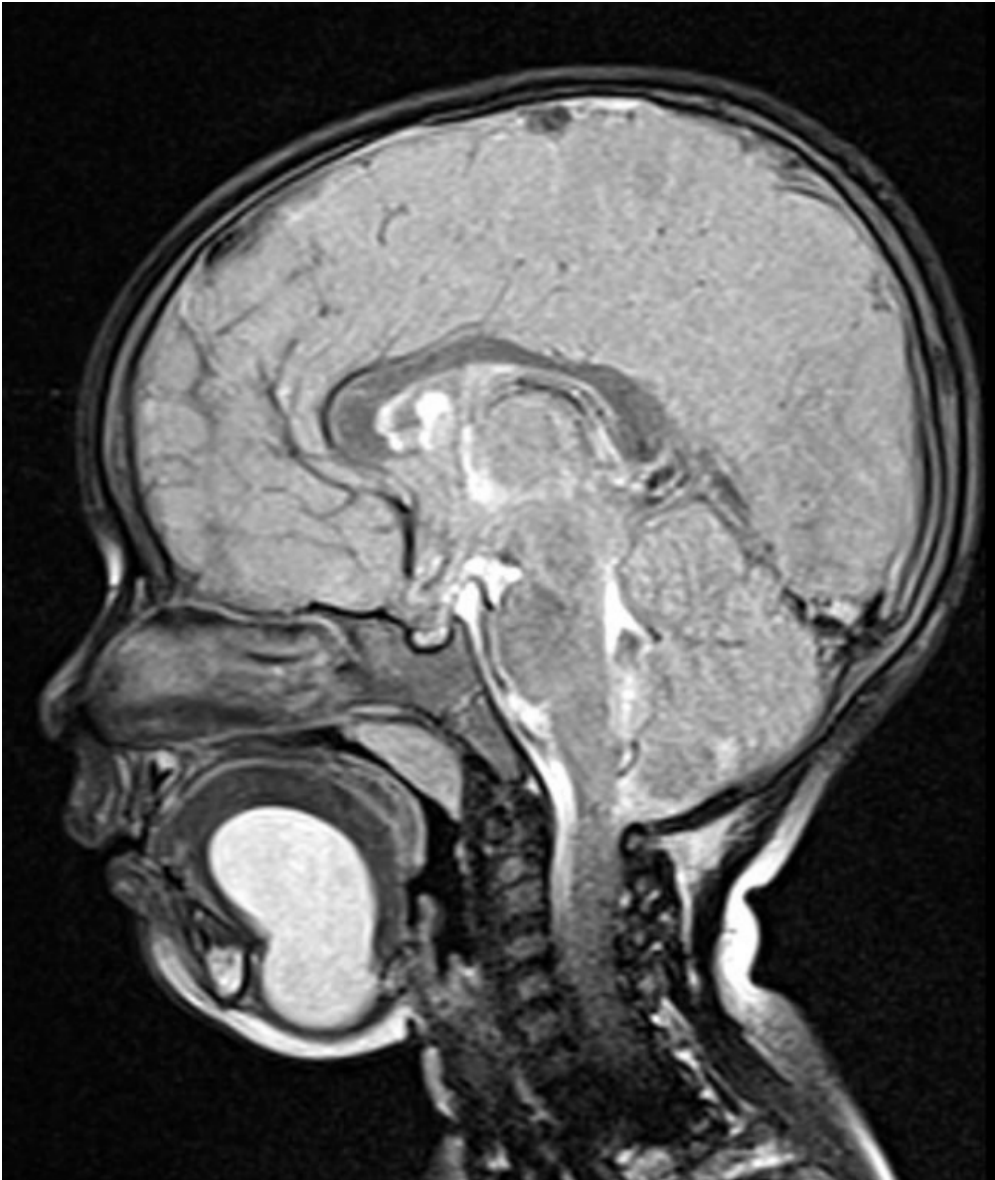
**Figure 3**

**a**



**Description:** T2 axial image shows a well-defined hyperintense lesion in sublingual region splitting the genioglossus muscles of the tongue. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.

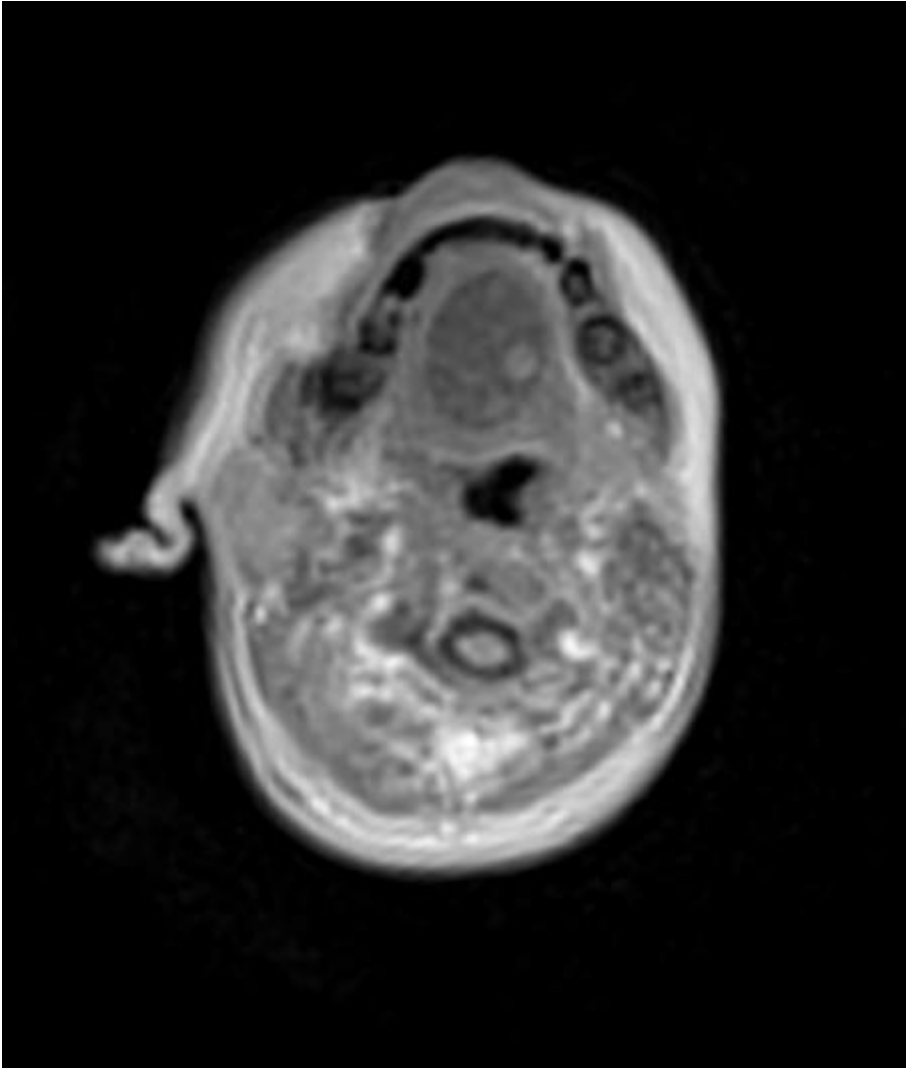
**b**



**Description:** T2 STIR sagittal image confirms the cystic nature of the tumour. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.

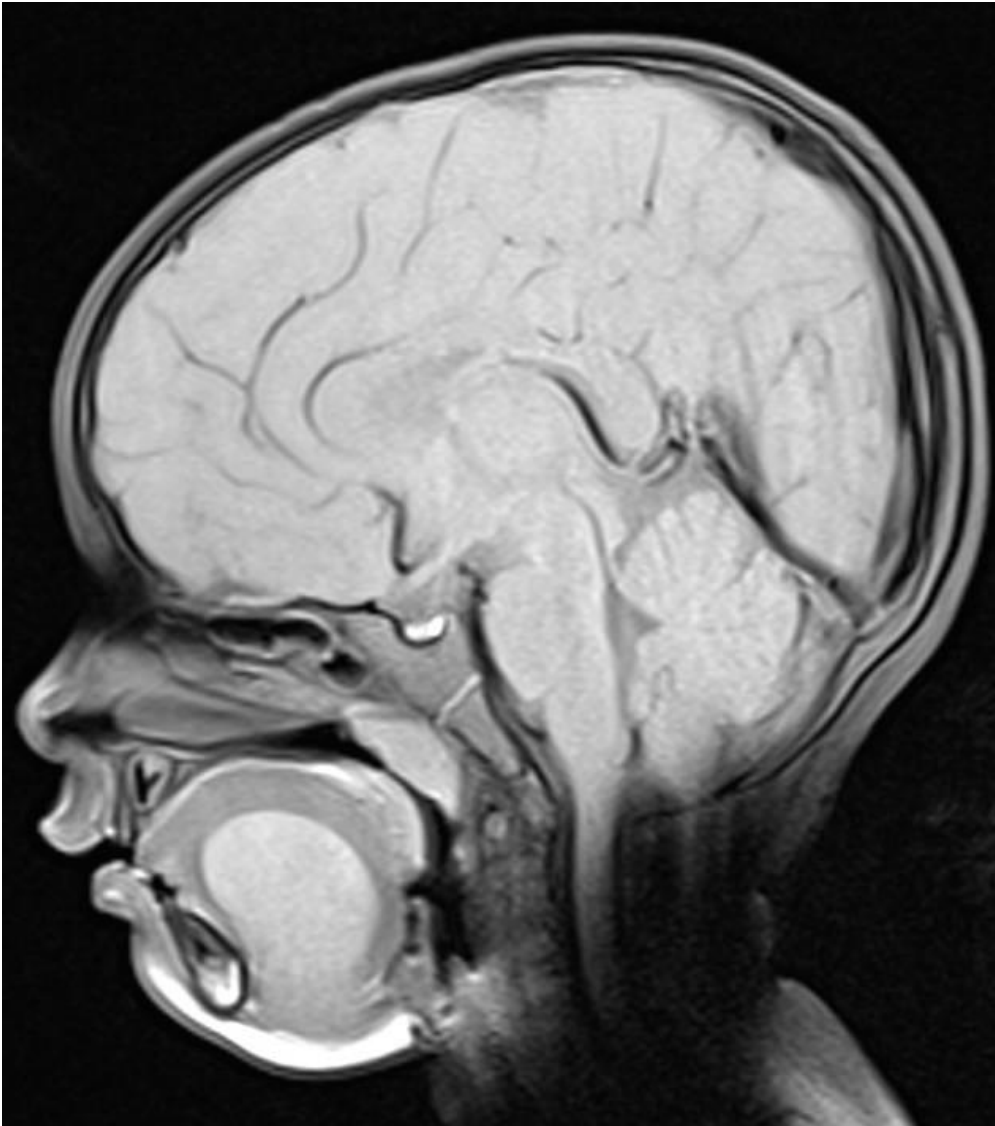
**Figure 4**

**a**



**Description:** T1 axial image of the floor of mouth shows a well-defined hypointense lesion containing round/ oval hyperintense globules creating a 'sac of marbles' appearance. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.

**b**

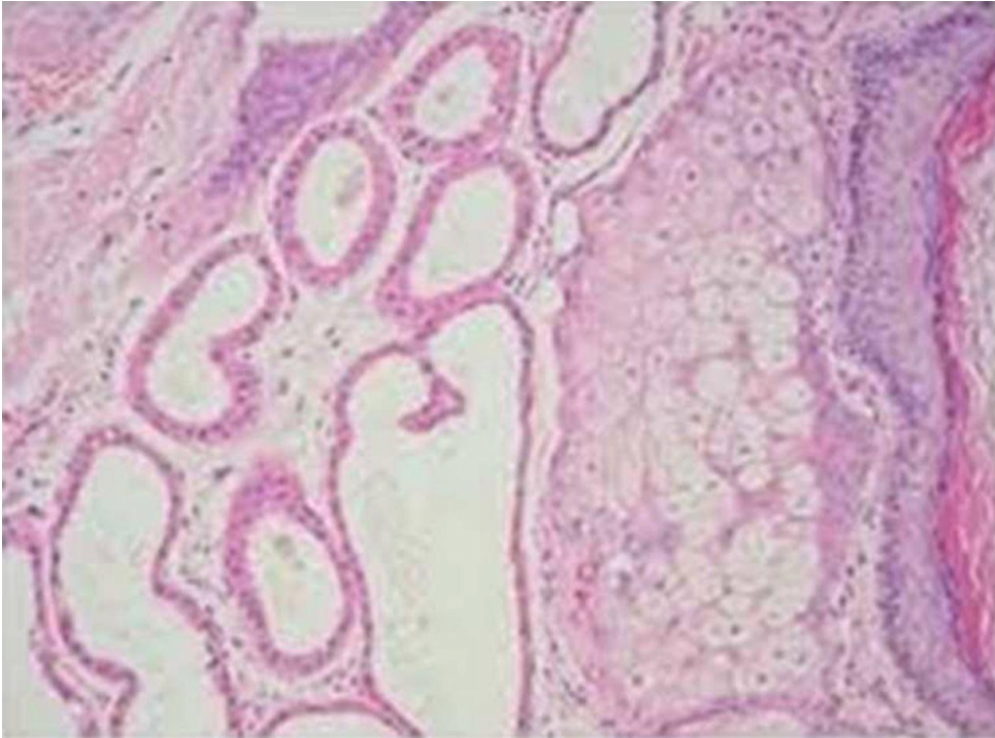


**Description:** Sagittal T1 fat-saturated sequence shows suppression of the hyperintense signal intensity globules within the lesion seen on T1 sequence confirming their fatty nature. **Origin:** Department of Radiology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.



**Figure 5**

**a**



**Description:** Magnification view of a H & E- stained section shows orthokeratinised stratified squamous epithelium lining the cyst along with sebaceous glands in the underlying connective tissue. **Origin:** Department of Pathology, Sardar Patel Hospital and Heart Institute, Ankleshwar, Gujarat, India.