Case Report

JRAD Journal of Research and Advancement in Dentistry

J Res Adv Dent 2018;9:1:1-5.

Sublingual Dermoid Cyst: A Case Report

Pravin U. Mukhi[1*] Chandrashekhar S. Pingal[2] Nilesh M. Patil[3] Amit R. Parate[4] Juhi A. Puri[5] Deepali Nipunge[6]

[1]Professor and Head, Department of Oral and Maxillofacial Surgery, SMBT Institute of Dental Sciences and Research, Nashik, Maharashtra, India.
[2]Senior Lecturer, Department of Oral and Maxillofacial Surgery, SMBT Dental College and Hospital, Sangamner, Maharashtra, India.
[3]Reader, Department of Oral and Maxillofacial Surgery, School of Dental Sciences, KIMS University, Karad, Maharashtra, India.
[4]Associate Professor, Department of Oral Medicine and Radiology, Government Dental College, Aurangabad, India.
[5]Senior Lecturer, Department of Oral and Maxillofacial Surgery, SMBT Institute of Dental Sciences and Research, Nashik, Maharashtra, India.
[6]Private Practioner, Nashik, Maharashtra, India.

ABSTRACT

Background: A dermoid cyst is a teratoma of a cystic nature that contains an array of developmentally mature, solid tissues. It frequently consists of skin, hair follicles, and sweat glands, while other commonly found components include clumps of long hair, pockets of sebum, blood, fat, bone, nails, teeth, eyes, cartilage, and thyroid tissue. As dermoid cysts grow slowly and contain mature tissue, this type of cystic teratoma is nearly always benign. In those rare cases wherein, the dermoid cyst is malignant, a squamous cell carcinoma usually develops in adults, while infants and children usually present with an endodermal sinus tumor.

Keywords: Dermoid cyst, sublingual, dentistry.

INTRODUCTION

Dermoid cysts are benign slow growing tumors lined by squamous epithelium and contain dermal adnexal structures such as hair follicles, sebaceous glands, or sweat glands in the cyst wall. They account for 1.6% to 6.9% of all cysts in the head and neck region.[1] They constitute less than 0.01% of all oral cavity cysts.[2] Nearly 34% of dermoid cysts are found in the head and neck, of which 6.5% are located at the floor of the mouth, making this uncommon entities.[3] Dermoid cysts occur predominantly in sites where embryonic parts fuse together.[4] In the head and neck, most common site is the lateral eye brow and the oral cavity. Anterior portion of floor of the mouth is the commonest site.[5] Treatment is surgical excision via intraoral or extra oral route; based on the lesion's size and location.[3,6] Here we present a case reports of dermoid cyst in the floor of mouth.

CASE REPORT

A 16 year old young girl came to the department of oral and maxillofacial surgery, SMBT Dental College with complaint of swelling below the tongue, which was initially small and increased in size over a time period of 6 years, she also complained of discomfort during swallowing.

On intraoral examination, a smooth, rounded well defined swelling was seen in the floor of mouth, measuring 3cm X 4 cm. (Figure 1) The mucosa overlying the swelling appeared normal. The anterior 2/3rd of tongue was raised.

On bimanual palpation, it was soft, fluctuant, non-tender and there was no associated erythema. Orifice of Warton's duct appears normal. Extraorally, there was a small swelling present in the submental region, overlying skin was normal in appearance and not attached to underlying pathology. (Fig. 2) Regional lymph nodes were not palpable.

No significant findings were seen on Mandibular occlusal radiograph. (Fig. 3) Fine needle aspiration cytology showed keratin flakes and proteinaceous material. Ultrasonography was suggestive of well

Received: Oct. 6, 2018: **Accepted**: Nov. 1, 2018
***Correspondence Dr. Pravin U. Mukhi.**
Department of Oral and Maxillofacial Surgery, SMBT Institute of Dental Sciences and Research, Nashik, Maharashtra, India.
Email: pravinmukhi@yahoo.co.in

pISSN 2278-0076
eISSN 2321-9270

encapsulated cystic lesion in the floor of the mouth measuring 2.68 x 2.78 x 3.8 cm and its wall

Fig 1: Intraoral swelling.

Fig 2: Extra oral swelling showing double chin.

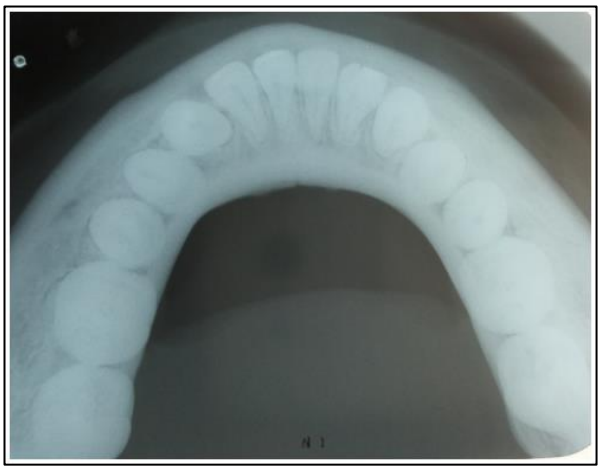

Fig 3: Mandibular occlusal radiograph with no significant findings.

thickness ranges from 1.5 to 2 mm. No vascularity was seen in the lesion. Cystic area showed echogenic material and internal echoes within it.

(Fig.4) Computerized tomography (CT) of the lesion was done which showed well defined radiolucency in the floor of the mouth and submental space suggestive of cystic lesion. (Fig. 5)

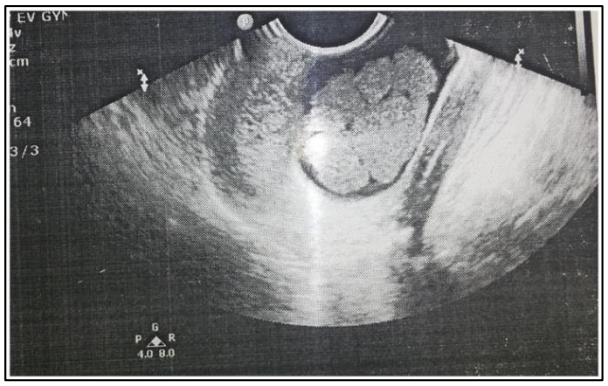

Fig 4: The ultrasonic scan of the area showing a lesion with distinct boundaries.

Fig 5: The computed tomography (CT) of the submental area showing a well defined radiolucency with distinct borders.

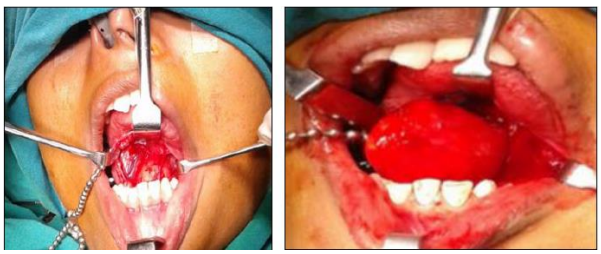

Fig 6: Intraoperative picture showing cyst removal through intraoral approach.

The differential diagnosis on basis of clinical and radiological similarity consisted of lipoma, ranula,

thyroglossal duct cyst, cystic hygroma, branchial cleft cysts, and benign and malignant tumors of the floor of the mouth and adjacent salivary glands. Intraoral surgical excision of the lesion was carried out under general anesthesia. . Transverse incision was taken in the floor of the mouth, extending between both the premolars on either side, over the most prominent part of the swelling. Wharton's duct was identified before incising. Once capsule was reached, blunt dissection was done to free the capsule & remove the cyst in toto. (Figure 6). Incision was closed taking care of the submandibular gland ducts.

Fig 7: A surgical excised cyst filled with keratin material.

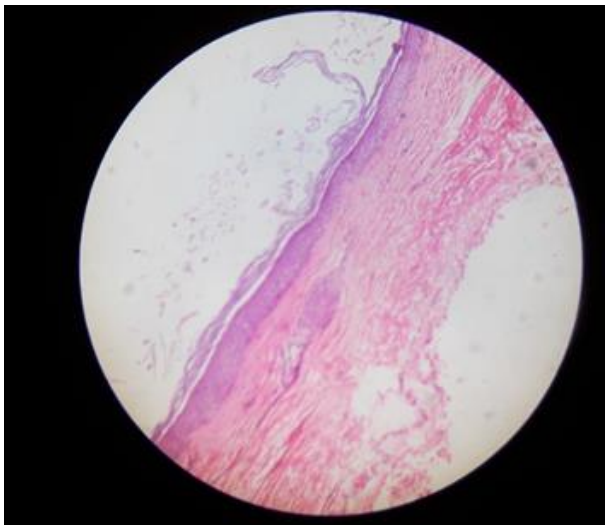

Fig 8: A cyst with keratinised squamous epithelium and adnexal structures in wall.

Macroscopically, the lesion was encapsulated and contained a keratin-like yellow material and resembled a dermoid cyst. (Fig. 7) Histopathology showed cyst with keratinization in the overlying epithelium, with the presence of a sebaceous gland in the wall, suggestive of a dermoid cyst. (Fig. 8)

Recovery was uneventful with no signs of recurrence uptill 6months follow up. (Fig 9)

Fig 9: Extra-oral and intraoral presentation after 6 months of surgery.

DISCUSSION

Dermoid cysts may be classified as congenital or acquired. Congenital cysts are dysembryogenetic lesions derived from entrapment and subsequent growth of epithelial cells during the midline fusion between the first and second branchial arches in the third and fourth week of intrauterine life. Acquired forms are derived from latrogenic or traumatic inclusion of epithelium and skin appendages.[5, 7]

Histologically, they can be further classified as epidermoid (simple), dermoid (compound) and teratoid (complex). Epidermoid cysts are always lined by stratified squamous epithelium without dermal appendages within the underlying connective tissue, whereas dermoid cyst, in addition contains skin adnexa like hair follicles, hairs, sebaceous and sweat glands. The teratoid exhibit lining and wall with tissue structures such as muscle, cartilage and bone are present.[8,9.]

Clinically, Dermoid cysts presents as asymptomatic, slow growing mass, situated in the midline above or below the mylohyoid muscle, present at birth, but are usually diagnosed only after they have reached a

considerable size i.e. around second and third decade of life or when there is sudden increase in the size of these lesions and it can be due to the onset of puberty when there is an increase in the secretion of sebum from the sebaceous glands, or may be due to secondary infection of the cyst contents either by blockage of salivary glands involved in the cyst or by implantation of oral microbials into the cyst through trauma causing pain, trismus, fever, dysphagia, odynophagia and cervical lymphadenopathy. When located above the muscle, the cyst manifests itself as a sublingual swelling; when below the muscle, the clinical aspect will be a submental swelling. Consequently, tongue elevation, speech alteration or double-chin development are frequent complaints.[8,9,10.]

The differential diagnosis on basis of clinical and radiological similarity consisted of lipoma, ranula, thyroglossal duct cyst, cystic hygroma, branchial cleft cysts, and benign and malignant tumors of the floor of the mouth and adjacent salivary glands. The floor of the mouth is the most common intraoral location for developmental lesions of the oral soft tissues, particularly dermoid cysts, lipoma, branchial cleft cysts, and thyroglossal duct cysts.[11]

The plain radiographs and orthopantomogram are not always sufficient in making differential diagnoses. In these cases, it is necessary to use ultrasonography, CT scan, or MR imaging together with cytology examination by fine-needle aspiration biopsy.[7, 8.] The diagnosis is mainly made on CT scan, MRI and ultrasonography indicates the cystic nature of the tumor, its size and anatomical relations

Ultrasound imaging is the initial diagnostic modality of choice for oral lesions. Dermoids appear as well circumscribed, unilocular cysts that may contain either anechoic or hypoechoic regions or multiple echogenic nodules because of the presence of epithelial debris or skin appendages.[3] CT scan demonstrates a thin-walled, unilocular mass filled with homogenous, hypo-attenuating material containing multiple hypo-attenuating fat nodules. This gives a “sack of marbles” appearance that is pathognomonic for dermoid cysts.[3] MRI characteristics are variable. On T2-weighted imaging, dermoids tend to exhibit a hyperintense signal. T1- weighted imaging demonstrates a variable signal depending on fat content.[3]

CT or MRI imaging best delineates the internal architecture of dermoid cysts and more precise localization of the lesion in relationship to the surrounding anatomy to guide surgical management.[7,8] The definite management of these lesions is complete surgical excision with very low recurrence rate, and it is facilitated by the fibrous capsule surrounding the cyst that makes it easy to be enucleated. The mylohyoid muscle separates the sublingual from submental and submandibular spaces and is a key landmark used to determine whether an intraoral or cervical approach is most appropriate during surgery. Small cysts above the mylohyoid are requires intraoral approach, whereas those below the muscle are operated extraorally. However, for large sublingual cysts, an extraoral approach may be preferred.[3,6.] Prognosis following surgical removal is excellent, and postoperative complications are minimal.[3, 6] Recurrence and malignant transformation to squamous cell carcinoma are rare.[12]

CONCLUSION

Dermoid cysts of oral cavity are rare and need to be differentially diagnosed from several other disease and conditions of the area. It is prudent to investigate with recent modalities before final diagnosis and surgical exploration. The definitive treatment is surgical excision via intraoral approach. This offers a good prognosis and very low chances of recurrence.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFRENCES

1. Bonet-Coloma C, Mínguez-Martínez I, Palma-Carrió C, Ortega-Sánchez B, Peñarrocha-Diago M, Mínguez-Sanz JM. Orofacial dermoid cysts in pediatric patients: A review of 8 cases. Med Oral Patol Oral Cir Bucal. 2011;16:e200-3.

2. Bitar MA, Kumar S. Plunging congenital epidermoidcyst of the oral cavity. Eur Arch Otorhinolaryngol. 2003;260(4):223-25.

3. Hanisha Patel, Jonathan Mayl, Bhawna Chandra, Cedric Pritchett, Tushar Chandra. Dermoid of the oral cavity: case report with histopathology

correlation and review of literature. Radiology Case. 2016 Dec; 10(12): 19-27.

4. De Ponte FS, Brunelli A, Marchetti E, Bottini DJ. Sublingual epidermoid cyst. J Craniofac Surg. 2002;13(2):308-10.

5. N. Hemaraju, S. K. Nanda, Shankar B. Medikeri. Sub-lingual dermoid cyst. lndian Journal of Otolaryngology and Head and Neck Surgery.2004; 56(3): 218-20

6. Jessica R. Dillon, Andrew J. Avillo, Brenda L. Nelson. Dermoid Cyst of the Floor of the Mouth. Head Neck Pathol. 2015 Sep; 9(3): 376–378.

7. Sandeep Verma, Jitendra Kumar Kushwaha, A A Sonkar, Rahul Kumar, Rajni Gupta. Giant sublingual epidermoid cyst resembling plunging ranula. Natl J Maxillofac Surg. 2012 Jul-Dec; 3(2): 211–213.

8. Marino R, Pentenero M, Familiari U, Gandolfo S. Dermoid Cysts of the Floor of the Mouth: A Case Report. J Clin Case Rep. 2012; 2:150.

9. P. Sheshadri, T. M. Kalappa, B. Pramod Krishna, Santhosh Kumaran, M. A. Lakshith Biddappa. Dermoid Cyst of Submental Region Mimicking Pilomatricoma. J Maxillofac Oral Surg. 2016; 15(Suppl 2): 339–342.

10. Harsha Jain, Sanjay Singh, and Amit Singh. Giant Sublingual Dermoid Cyst in Floor of the Mouth. J Maxillofac Oral Surg. 2012 Jun; 11(2): 235–237.

11. Mohan Baliga, Nandita Shenoy, Dharnappa Poojary, Ram Mohan, Ramdas Naik. Epidermoid cyst of the floor of the mouth. Natl J Maxillofac Surg. 2014; 5(1): 79-83

12. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and maxillofacial pathology. 3. St. Louis: Saunders Elsevier; 2009. pp. 33–35.