



“THE SPECTRUM OF INTRAORAL CYSTS: CLINICAL PRESENTATION AND MULTIDISCIPLINARY MANAGEMENT”

Otorhinolaryngology

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ABSTRACT

A retrospective review of 50 cases of intraoral swellings of the floor of the mouth was done, evaluating their diagnosis and further the different surgical approaches for their removal. Fifty cases of patients with a diagnosis of cyst over the floor of the mouth, treated at MGM Medical college and MYH Hospital, Indore between the period of 2022-2024 were included. Out of the total 50 cases diagnosed with intraoral lesions, 25 cases were male and 25 cases were female which showed a male : female ratio of 1.:1. Age distribution of the patients ranged from 8 years – 60 years. It is seen that 18 patients belong to the age group of 8 – 15 years (36%), 16 between 16 – 30 years (32%), 10 between 31 – 45 years (20%) and 6 patients were between 46 and 60 years of age (12%). 16 cases were Ranula, 9 cases were of simple ranula (18%) and 7 were of deep plunging ranula (14%), 4 cases were of Dentigerous cyst (8%), 8 cases of Dermoid cyst (16%), 14 cases were of mucus retention cyst (28%) and 8 were of cystic hygroma (16%). Cyst excision was the treatment of choice for intra oral swellings.

KEYWORDS

Intra oral, Mucus Retention cyst, Dermoid cyst, Ranula

INTRODUCTION

The floor of the mouth is a complex anatomical region comprising various structures, including salivary glands, muscles, and neurovascular components. Cystic swellings in this area present with diverse etiology, overlapping clinical presentations, and proximity to vital structures. These swellings may arise from developmental anomalies, obstruction of salivary ducts, or pathological changes in soft tissues, encompassing a range of conditions such as ranula, dermoid cyst, epidermoid cyst, and lymphoepithelial cysts.(1)

The floor of the mouth is a site where developmental anomalies, such as dermoid and epidermoid cysts, cystic hygromas, and congenital ductal cysts, frequently present. These congenital swellings are often linked to embryological remnants or malformations and can manifest early in life.

Acquired cystic lesions, including ranulas, mucous retention cysts, and mucoceles, are more commonly encountered in clinical practice. Ranulas, often arising from obstruction or rupture of the sublingual gland's duct, may remain confined to the floor of the mouth or extend into the neck as a plunging ranula. These swellings can lead to functional disturbances, including dysphagia, difficulty in speech, and airway compromise, depending on their size and extent.

Understanding the pathogenesis, clinical features, and diagnostic approaches including a detailed history and examination where accurate diagnosis often requires a combination of clinical examination, imaging, and histopathological evaluation is crucial for accurate identification and management. This paper aims to explore the varied presentations of cystic swellings of the floor of the mouth, emphasizing the need for a multidisciplinary approach to ensure optimal outcomes.

Observations

Out of the total 50 cases diagnosed with intraoral cystic lesions, 25 cases were male and 25 cases were female which showed a male : female ratio of 1:1. Age distribution of the patients ranged from 8 years– 60 years. It was seen that 20 patients belonged to the age group of 8 years – 15 years (40%), 16 between 16 – 30 years (32%), 8 between 31 – 45 years (16%) and 6 patients were between 46 and 60 years of age (12%).

Table – 1 Age Distribution

S.no	Age group	Cases	%age
1.	8-15yrs	20	40
2.	16-30yrs	16	32

3.	31-45 yrs	08	16
4.	46-60yrs	6	12

The various symptoms and signs with which the patients presented were noted. Visible intra-oral swelling, pain over the swelling/ discomfort, difficulty in chewing/speech, extra oral/ neck swelling were the common complaints encountered.

Table-2 Clinical Presentation

S.no	Symptoms	Cases	%age
1	Visible Intraoral swelling	50	100
.2	Pain/Discomfort	34	68
.3	Difficulty in chewing/speech	32	64
.4	Bleeding	-	-
.5	Extra oral swelling	20	40
6..	Asymptomatic	-	-

Out of the 50 cases, 16 were Ranula, 9 cases were of simple ranula (18%) and 7 were of deep plunging ranula (14%), 4 cases were of Dentigerous cyst (8%), 8 cases of Dermoid cyst (16%), 14 cases were of mucus retention cyst (28%) and 8 were of cystic hygroma (16%).

Table-3 Based On Types

S.no	Types	Cases	%age
1.	Simple Ranula	9	18
2.	Plunging Ranula	7	14
3.	Dentigerous cyst	4	8
4.	Dermoid cyst	8	16
5.	Mucus retention cyst	14	28
6.	Cystic hygroma	8	16

DISCUSSION

Cystic swellings of the floor of the mouth present with diverse etiologies and overlapping clinical features. These swellings can be broadly categorized into congenital and acquired lesions, each with unique characteristics and implications for management.

A. Mucus Retention Cyst- It is a benign, fluid-filled sac that forms when a duct of a salivary gland becomes blocked, leading to the accumulation of mucus. Mucus retention cysts are typically painless, though they can cause discomfort if they grow large or become infected. Unlike true cysts, mucous retention cysts are lined by an epithelial layer and can vary in size. They may present as translucent or bluish swellings, and if they rupture, the mucus can extravasate into the surrounding tissue. Treatment often involves excision or drainage, depending on the size and symptoms of the cyst.

B. Dermoid Cyst: Dermoid cysts are rare, benign congenital lesions that develop due to the entrapment of ectodermal and mesodermal elements during embryogenesis. In the oral cavity, they present as midline swellings that can cause symptoms such as dysphagia, dysphonia, and, in severe cases, airway obstruction. Diagnostic imaging, including ultrasound, CT, and MRI, plays a crucial role in determining the cyst's anatomical location and guiding surgical planning. Histopathological examination reveals a cyst lined by keratinized stratified squamous epithelium, often containing adnexal structures like sebaceous glands and hair follicles. The definitive treatment is surgical excision, which is generally curative with a low recurrence rate. (2)

C. Ranula and Plunging Ranula : A **Ranula** is a mucous retention cyst that occurs in the floor of the mouth due to the obstruction or rupture of the sublingual gland ducts, leading to the extravasation of saliva into surrounding tissues. It presents as a painless, bluish, translucent swelling, often lateral to the midline of the floor of the mouth. Large ranulas can cause symptoms like dysphagia, speech disturbances, or, in severe cases, airway obstruction. Ranulas are classified into simple ranulas, which remain confined to the floor of the mouth, and plunging (cervical) ranulas, where the mucous extends through the mylohyoid muscle into the neck. Diagnosis is primarily clinical, supported by imaging techniques like ultrasound, CT, and MRI to assess the extent of the lesion. Treatment usually involves surgical excision of the cyst and often the associated sublingual gland to prevent recurrence. Marsupialization may be considered for smaller or recurrent lesions. (3)

D. Dentigerous Cysts: A dentigerous cyst is an odontogenic cyst that can develop around the crown of an impacted unerupted tooth.

Management depends on the tooth involved and can involve enucleation of the cyst alone or extraction of the impacted tooth along with cyst removal. The tissue must always be sent for histopathological examination to determine the type of cyst as well as to exclude odontogenic tumours. (4)

E. Cystic Hygroma: A **cystic hygroma** is a benign lymphatic malformation that typically presents as a soft, fluctuant swelling resulting from the abnormal development of lymphatic vessels. It occasionally involves the floor of the mouth, presenting as a swelling that may cause dysphagia speech impairment, or airway obstruction. Imaging studies such as ultrasound, CT, or MRI are essential for assessing the size and extent of the cyst. Treatment options include surgical excision, sclerotherapy, or laser therapy, depending on the size, location, and extent of the malformation.

The clinical presentation of these cystic swellings can vary widely, ranging from asymptomatic to significant symptoms such as dysphagia, difficulty in articulation, or airway compromise. Imaging modalities, including ultrasonography, FNAC, MRI, and CT scans, play a crucial role in assessing the size, extent, and relationship of the lesion to surrounding structures. Histopathological examination remains the gold standard for confirming the diagnosis.

Management of these lesions depends on their type, size, and associated symptoms. Surgical excision is the treatment of choice for most congenital cysts, including dermoid and epidermoid cysts, as well as for symptomatic ranulas and mucoceles. Minimally invasive approaches, such as marsupialization, may be considered for certain cases of ranulas or cystic hygromas. Recurrence is a concern, particularly with incomplete excision or in cases of plunging ranulas.

For the intraoral approach, the procedure typically begins with local anesthesia followed by a careful midline vertical or elliptical incision made over the floor of the mouth, followed by blunt dissection to expose the cyst. The cyst is freed from the surrounding mucosa and excised. Wound is closed with absorbable sutures. Larger cysts may require a bilateral incision along the mandibular ridge for better surgical control, particularly for median cysts located above the geniohyoid muscles. Smaller cysts can be excised with the help of laser. The surgery is performed with caution to avoid damage to vital structures like the submandibular duct and lingual nerve.

Extra-oral approach involves making a transverse incision in the cervical region below the mandible to gain access to deeper or more extensive lesions that cannot be reached through intraoral surgery

alone. After careful dissection to avoid injury to critical structures like the facial nerve or submandibular gland, the lesion is removed, and any associated cystic remnants are excised. The incision is closed in layers, and a drain may be placed if necessary. Specimens are sent for histopathological examination.

Postoperative recovery generally proceeds without serious complications, though some patients experience pain at the incision site, mucosal edema, or hematoma.

Postoperative care includes pain management, oral hygiene maintenance, and regular follow-up visits.

CONCLUSION

In conclusion, intraoral swellings over the floor of the mouth encompass a variety of lesions, including mucoceles, ranulas, dermoid cysts, and dentigerous cysts, each with distinct clinical features and treatment strategies. While most of these swellings are benign and manageable, early diagnosis through clinical examination and imaging is essential to determine the appropriate treatment plan. The early identification and management of cystic swellings of the floor of the mouth are crucial to prevent complications such as infection, rupture, or airway obstruction.

Intraoral excision is typically the preferred approach for offering direct access and minimal scarring. Overall, with careful management and postoperative care, the prognosis for patients with intraoral swellings of the floor of the mouth is generally favorable, with a low recurrence rate when appropriately treated. (5)

REFERENCES:

1. Wong T, Yap T, Wiesenfeld D. Common benign and malignant oral mucosal disease. Aust J Gen Pract 2020;49(9):568-73. Search PubMed Baumash HD. Mucoceles and ranulas. J Oral Maxillofac Surg 2003;61(3):369-78. Doi: 10.1053/joms.2003.50074.
2. Giarraputo L, Savastano S, D'Amore E, Baciliero U. Dermoid Cyst of the Floor of the Mouth: Diagnostic Imaging Findings. Cureus. 2018 Apr 2;10(4):e2403. Doi: 10.7759/cureus.2403. PMID: 29872584; PMCID: PMC5984270.
3. Refemece Bansal, S., & Rathi, A. (2015). Ranula: A review of its etiology, clinical presentation, and management. Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology, 27(1), 20-23. <https://doi.org/10.1016/j.ajoms.2014.02.001>
4. Timothy Wong, Tami Yap, David Wiesenfeld. Common causes of swellings in the oral cavity. Australian journal for General practitioners, Vol 49 Doi: 10.31128/AJGP-02-20-5250-02
5. Hassan BM et al Bluish swelling on the floor of the mouth. Malays Fam Physician. 2020 Mar 18;15(1):64-67. PMID: 32284810; PMCID: PMC7136672.