



PLUNGING RANULA PRESENTING AS A SUBMENTAL SWELLING – A RARE CASE REPORT

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ABSTRACT

Ranulas are mucocoeles majorly of salivary gland origin occurring sublingually, the incidence of which peaks in the second decade of life. Occurrence is due to obstruction at the level of either sublingual gland or a minor salivary gland or a pseudocyst as a result of ductal injury leading to extravasation and accumulation of saliva in the neighbouring tissues. Clinically Ranulas present as either intraoral or plunging/cervical/deep diving swellings .They have a predilection for teenagers and young adults. We are delineating a case of plunging ranula extending up-till the submental region in a 15 year old female which is treated successfully by surgical excision.

KEYWORDS

Ranulas. Plunging Ranulas. Mucocoeles. Pseudocyst

INTRODUCTION

The term Ranula corresponds to a latin word meaning frog. Ranula manifests as a soft bluish translucent swelling sublingually denoting the underbelly of a frog. They have got a frequency of 0.2 cases per 1000 persons¹. Females are more prone than males with male to female ratio 1:1.4².

Sublingual ranulas form underneath the mucous membranes of the floor of the mouth due to extravasation and accumulation of secretions of majorly sublingual gland along with the other salivary glands above the mylohyoid, whereas plunging ranulas plunge by extending below the mylohyoid into the submental, submandibular or parapharyngeal space, presenting as neck masses. Plunging ranulas extend into the neck either through the muscular dehiscence for the neurovascular bundle of the mylohyoid muscle or around the posterior border of the mylohyoid muscle.

Origin of ranulas can occur following trauma (most common) to the excretory duct of the major salivary glands, chronic inflammation (sjogren syndrome & sarcoidosis) or HIV infection with periductal scarring, ductal hypoplasia, ductal stenosis, ductal agenesis and neoplasia.

Clinically they present as a soft and cystic swelling mostly in floor of the mouth and if they are plunging , they present as neck masses mostly in submental or submandibular region. It can cause dysphagia by pushing the tongue upwards. On examination fluctuation and transillumination are positive. If any portion of the usual soft cystic ranula is solid to palpation , possibility of a neoplasm should remain in the differential diagnosis.

The diagnosis is approached after a combined clinical, radiographic imaging (MRI) and histopathological studies (biopsy & FNAC).

Ranulas can be treated with various modalities including surgical excision, marsupialisation, aspiration, laser ablation, cryosurgery and electrocautery.

Considering this background information we intend to present a rare case of plunging ranula extending uptill the submental region , presenting as a submental swelling in a 15 year old female with comprehensive treatment.

Case report

A 15 year old female reported to the ENT opd with a 8 month history of swelling in the floor of the mouth . The swelling was of pea size initially and gradually increased to lemon size in the floor of the mouth in a span of 8 months.

The patient also complained of midline swelling in the submental region in the neck since 2 months. She also had difficulty in chewing and swallowing food because of swelling below the tongue.

On examination soft cystic swelling of 3* 2 cm size was seen below the tongue in the floor of the mouth and it was bluish in colour. The swelling was soft and cystic in consistency. Fluctuation and transillumination test was positive.

Extra oral examination revealed a swelling of size 2*3 cm in the submental region which was also soft in consistency. The swelling extended 2 fingers below the chin till the laryngeal prominence.

FNAC was advised. Smears examined showed presence of many macrophages in a background of mucinous material along with scattered polymorphs.

A provisional diagnosis of Ranula was made confirmed by an MRI scan. An MRI revealed an anteroinferior lingual midline lesion with benign cystic characteristics extending into the submental region suggestive of lymphatic malformation.

The patient was planned for Excision of plunging ranula through transcervical approach under General anaesthesia. The excised mass was sent for histopathological evaluation which showed presence of cavity containing mucin, abundant epithelioid foamy histiocytes (muciphages), neutrophils and granulation tissue [Figure No 3A&B]. Procedure was uneventful and after 3 months of follow up patient was absolutely stable and symptom free.

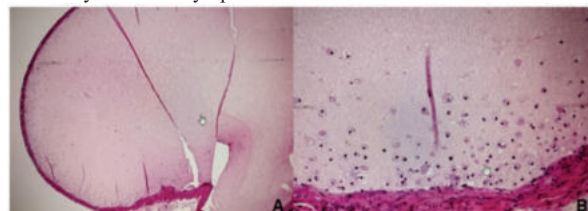


Figure: A&B showing a cystic cavity showing scattered muciphages along with polymorphs in a mucinous background [H&E, A-20X; B-40X]

DISCUSSION

Ranulas are basically mucus retention cysts arising in relation to the sublingual gland. They are characteristically large and appears as a tense fluctuant dome shaped vesicle generally with a blue hue. The prevalence of Ranula is 0.2 cases per 1000 persons and 6% of all oral sialocysts³.

Clinically it manifests as two major forms one being simple and the other being plunging. Plunging ranula is a clinical variant with moderate incidence occurring due to dissection of the mylohyoid muscle in the submandibular space by the fluid (secretions) pressure⁴. A plunging ranula is a mucus extravasation pseudocyst arising from the sublingual gland that extends into the neck through the muscular dehiscence for the neurovascular bundle of the mylohyoid muscle. They are more commonly seen in teenagers and young adults predominately in second decade of life.

The diagnosis of the same is determined by a combination of history, clinical presentation and imaging studies. The patient presents with bold swellings in the neck. The diagnostic tools used for the same includes FNAC, MRI and CT scan⁵. However, MRI has been suggested as the most sensitive method for the diagnosis of the plunging ranula⁶. 'Tail sign' which is seen as the tapered continuation of the cervical portion of the ranula into the sublingual space on CT and MRI imaging is said to be pathognomonic of a plunging ranula.⁷

In our case the patient had a sublingual swelling restricted to the midline. Investigations employed for the same includes FNAC and MRI which are suggestive of plunging type of ranula. The patient had undergone a surgical excision of the ranula out of various other treatment modalities that includes marsupialization, laser ablation and cryotherapy. Drainage of the cyst, either spontaneously or by aspiration usually results in recurrence. Observation can be done if Ranula is small and does not interfere with tongue function. Marsupialisation of the cyst results in a 50 % recurrence rate⁸. Most small ranulas can be removed along with sublingual salivary gland taking care to identify the lingual nerve. Plunging ranulas can be removed transcervically by retracting the mylohyoid muscle anteriorly which was done in our case⁹.

CONCLUSION

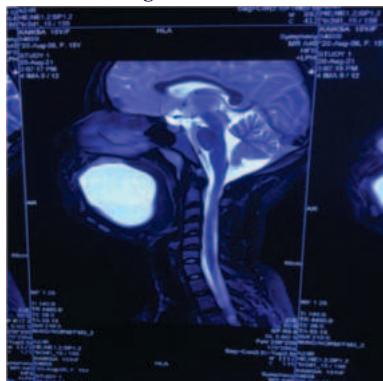
Ranula can either be a mucus retention cyst or pseudocyst from mucus extravasation that is confined to the floor of the mouth. A plunging ranula extends into the neck through muscular dehiscence of the mylohyoid muscle into submental or submandibular triangles of neck¹⁰.

A complete analysis of clinical presentation, imaging examination and histologic findings is extremely important for its diagnosis. Surgical resection is the imaging modality of choice as other modalities like aspiration, drainage, marsupialization are associated with high recurrence¹¹.

Images With Legends



Plunging Ranula Presenting As Midline Submental Swelling



MRI showing anteroinferior lingual midline cystic swelling



Intraoperative picture of excision of plunging ranula through transcervical approach

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