

## A Case Report of a Plunging Ranula

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### Abstract

Plunging ranula is a mucous extravasation phenomenon in the floor of the mouth which dissects the mylohyoid muscle. These lesions are always accompanied with an oral counterpart. Most commonly present as painless swelling in females in second to third decade of their life. Surgery is the gold standard for treatment.

**Keywords:** *Plunging Ranula; Mylohyoid Muscle; Magnetic Resonance Imaging (MRI)*

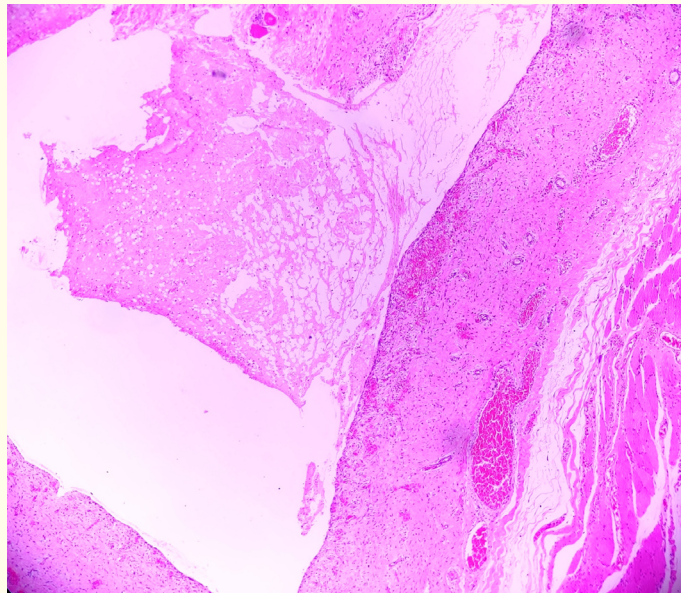
### Introduction and Case Report

A ranula is a mucous extravasation phenomenon occurring in the floor of mouth arising from the sublingual gland. The term "Rana" is Latin for "frog". When the mucin dissects through the mylohyoid muscle to involve the cervical areas i.e. submandibular region or submental region, it is known as plunging ranula. These lesions most commonly present as painless, slow growing mobile swellings in the floor of mouth. Usually, females in the second decade of their life are affected. Ranulas develop due to salivary duct obstruction resulting in increased pressure, duct rupture and formation of a retention pseudocyst. Seldom, ranulas can result from an obstruction of the submandibular gland or a minor salivary gland, although these do not form plunging ranulas [1,2]. Rarely, plunging ranulas develop as a sequelae to cancer resection surgeries especially of the tongue. Sialogram, ultrasonography, Magnetic resonance imaging (MRI), Computed Tomography and aspiration cytology can be helpful for diagnosis. Aspiration cytology will show mucin with muciphages and biochemical analysis will show increase in amylase and protein content. This is diagnostic of the salivary origin. Histopathological examination is similar to the findings of a mucous extravasation phenomenon. Surgery is the main stay for the management of ranulas. These include incision and drainage, excision of ranula, marsupialization and marsupialization with packing or complete excision of the sublingual gland. Simple marsupialization is not a favoured primarily because of the high recurrence rate from 61% to 89%. Marsupialization with packing of the cyst cavity may reduce the recurrence [3,4].

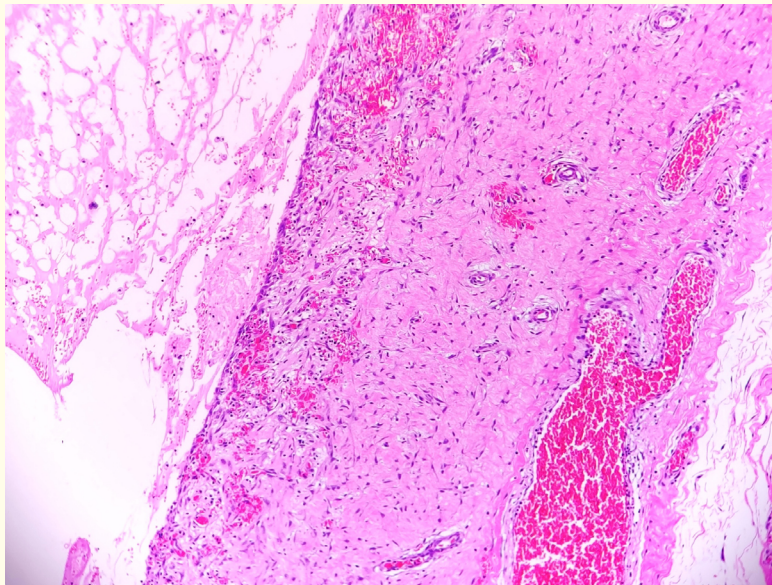
In our case, the patient was a female in her seventh decade of life who presented with a swelling in the upper neck region. The patient was a follow up case of Carcinoma tongue - operated 3 years ago. The imaging findings revealed a simple cystic (anechoic) lesion deep to the mylohyoid muscle. The lesion was excised followed by packing of the cystic cavity. The excised specimen was submitted to the pathology department. The histopathology showed ruptured mucin filled cystic space surrounded by muciphages, fibromuscular cyst wall, haemorrhage and chronic inflammation.



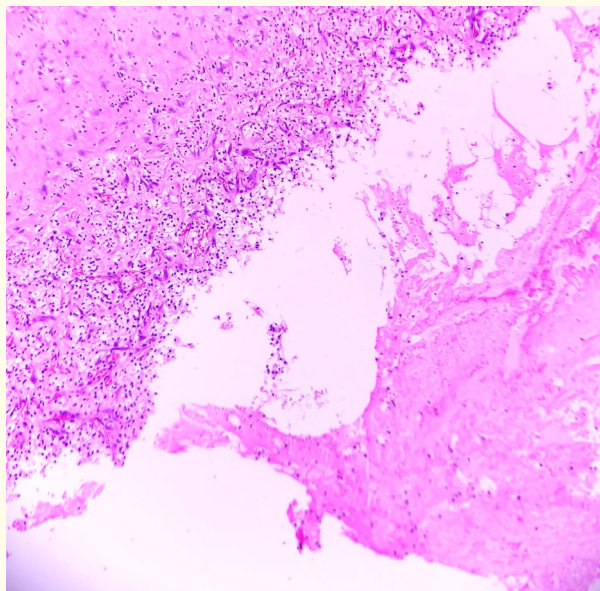
**Figure 1:** Gross picture of excised specimen.



**Figure 2:** Photomicrograph showing ruptured mucin filled cystic space (HE 40x).



**Figure 3:** Photomicrograph showing fibromuscular cyst wall, haemorrhage and inflammation (HE 100x).



**Figure 4:** Photomicrograph showing muciphages surrounding mucin filled area (HE 400x).

## Conclusion

We would like to conclude that plunging ranulas should be considered in differential diagnosis of neck swellings. Also, rarely but these can develop as a consequence of surgical interventions for head and neck cancers.

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