Management of Ranula
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Abstract
Ranula is a mucous filled cavity, in the floor of the mouth in relation to the sublingual gland. This case report highlights the role of the MRI scan in facilitating a definitive diagnosis of sublingual ranula. Key Words: Oral Ranula; Plunging Ranula; MRI

Introduction
Ranula by definition is a mucous filled cavity, a mucocele, in the floor of the mouth in relation to the sub lingual gland. The name “ranula” has been derived from the latin word “Rana” which means “Frog”. The swelling resembles a frog’s translucent under belly or air sacs. Ranulas are characteristically large (>2cm) and appear as a tense fluctuant dome shaped swelling, commonly in the lateral floor of the oral cavity.(1) This paper document our experience regarding management of ranula, and use of MRI preoperatively, as a protocol to evaluate the extension of ranula and its surgical planning by enucleation with/without excision with sublingual gland.

Case Report
A 32 year old female patient reported to our unit, with chief complaint of swelling in relation to left sublingual region for last 8 months with difficulty in swallowing. Extraoral examination revealed swelling in relation to left sublingual region measuring about 3cmX3 cm in size which extended anteriorly 1cm behind the commissure of the lip on left side and posteriorly till angle of the mandible. Inferiorly extent was 2cm below the lower border of the mandible. No paresthesia was associated with the swelling and the regional lymph nodes were not palpable. Intraoral examination revealed transparent bluish swelling in relation to left side of the floor of the mouth, associated with raised floor (Figure 1).

On palpation swelling was soft in consistency, non-tender and fluctuant. There were no secondary changes like ulceration, fistula formation, infection, discharge. Based on the history and clinical presentation routine radiographs were advised. For detailed study T1, T2 weighted Magnetic resonance imaging was advised, which revealed left side lesion involving sublingual space (Figure2). The lesion was considered to be an extensive plunging ranula .Routine blood investigations were done. Under general anesthesia, intra oral approach was used to expose the lesion. Lesion with sublingual gland was excised (Figure 3). Intra oral drain was placed to evacuate hematomas. After surgery, patient was on 5 days of antibiotic therapy. Regular follow up of 18 months shows no sign of recurrence.

Discussion
Ranula arises from obstruction of excretory ducts or extravasation and subsequent accumulation of saliva from the sublingual gland.(2) The initial stage in formation of a ranula is a traumatic rupture of the excretory duct, and the second stage is the extravasation and subsequent accumulation of saliva within the tissue, as shown in experimental studies.(2, 3) MRI study is most sensitive investigation to evaluate the sublingual gland and its states.(4) On MRI, the ranula’s characteristic appearance is usually dominated by its high water content. Thus, it has a low T1-weighted, an intermediate
proton density, and high T2-weighted signal intensity. This appearance, especially in a plunging ranula, may be similar to that of a lymphangioma, a lateral thyroglossal duct cyst, and possibly an inflamed lymph node.(5) However, if the protein concentration of the ranula’s contents is high, the signal intensities can vary, often being high on all imaging sequences. In such cases, the MR differential diagnosis includes entities such as dermoids, epidermoids, and lipomas.(5) Surgical management of ranula include, incision and drainage, Enucleation of ranula, marsupialization and marsupialization with packing or complete excision of sublingual gland, cryosurgery, fenestration and continuous pressure. The recurrence rate with the various treatments was 100% in cases of incision and drainage, 61% in cases of simple marsupialization, and 0% in the case of Enucleation of the ranula with or without sublingual gland excision.(3) MRI clearly shows ranula of small size and the slight extensions into adjacent spaces of plunging ranulas with signal intensity different from that of surrounding structures.(3) MRI has excellent ability to delineate the extent in differentiating ranulas from other cystic masses. (3) We consider MRI superior to CT due to its excellent soft tissue contrast.

**Conclusion**

In conclusion, preoperative MRI is helpful to know the outline and boundaries of lesion, which aids in the surgical planning of ranula by enucleation with excision of sublingual gland.

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