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Case Report
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Atypical Presentation of a Ranula

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Abstract

When defining a ranula we often use the word "pseudocyst" that is associated with sublingual glands or submandibular ducts obstruction. There are two types of ranula, a congenital ranula and a plunging ranula, the former found in our patient at birth.

The case we have in hand is a full-term baby who was born with a mass that is attached to the tongue seeming to be a hemangioma or teratoma, however after further investigations it turned out to be a ranula. Fortunately, the mass did not affect her breathing nor sucking and was surgically removed successfully.

In this case report, we would like to highlight an atypical and rare presentation of a ranula with a systematic approach to reach the proper diagnosis without misdiagnosing the patient.

Keywords: Neonate, Ranula, Cyst, Excision

Introduction

When defining a ranula we often use the word "pseudocyst" that is associated with sublingual glands or submandibular ducts obstruction. It can be categorized into two types: simple or congenital ranula and plunging ranula. The former refers to the narrow portion of the mouth that's below the floor. On the other hand, the latter refers to the region extending from the mylohyoid muscle down to the cervical region.

The prevalence of congenital ranula is rare, with a prevalence of around 0.74%. It can be regarded as either an epithelial lined retention cyst or extravasation pseudocyst. There are various treatment options for this condition, such as sclerotherapy, needle aspiration, marsupialization, and excision of the cyst with a sublingual gland.

Our aim of this case report is to keep an open mind when sorting out the differentials and not exclude ranula as a diagnosis unless proper investigation was performed because as it is in our case where hemangioma and teratoma were a more probable differential it turned out to be an atypical presentation of ranula.

Case presentation

Our case sheds the light on a full-term baby who was born via c-section with a remarkable birth examination of a 2x2 cm sublingual cyst in the anterior third of the tongue (Picture 1). Prenatally, there was a suspicion of craniofacial anomaly when a departmental scan was performed which was then confirmed by the Feto Maternal Unit scan as an oral cyst. It was explained to the mother that her baby girl might need an Ex Utero Intrapartum Treatment (EXIT) Procedure at birth with the possibility of placing a tracheostomy.

Figure 1: Ranula at birth

Fortunately, she did not require any intervention at birth and was maintaining normal saturation on room air. She was sucking well but due to the mass in her oral cavity it was difficult for her to feed properly, therefore, she was kept on nasogastric feeds which she tolerated well.

Diagnosing the cyst was a challenge, it was big enough that the

tongue protruded through the mouth and on a closer look it had some bluish discoloration which made us think of a hemangioma but since the content of the cyst was a mystery, teratoma was another possibility. Although the cyst was above the floor of the mouth and not under it to give us a typical picture of a ranula, a very rare and an unlikely diagnosis of an atypical ranula was kept in mind.

With all these possibilities in mind. The next day an MRI with contrast was performed and it showed a large midline anterior sub lingual cyst measuring 1.7 x 1.9 cm raising the tongue upward and almost obliterating the oral cavity and showing hyper intense T1 and T2 signal with fluid / fluid level (Picture 2A, 2B, 2C), concluding the diagnosis of a simple congenital ranula.

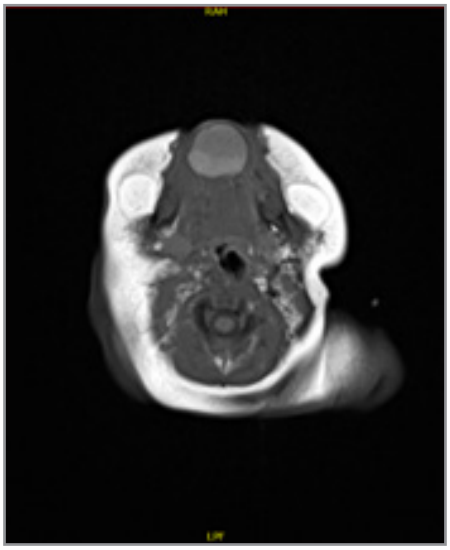

Figure 2A: MRI transverse T1

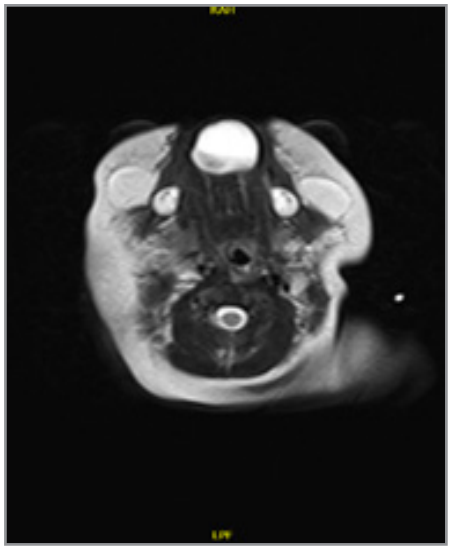

Figure 2B: MRI transverse T2

Figure 2C: MRI sagittal

On day 8 of life, she was taken to the operation theatre for the cyst removal by the ENT team under general anesthesia. The borders of the cyst were cut open with a bipolar where thick greenish fluid was secreted from the cyst. Dissection and Excision of the whole sac of the cyst was done (Picture 3) and sent for histopathology successfully and she was started on oral feeds the same day. Grossly the specimen was white smallest measuring 0.5 x 0.5 x 0.2 cm and largest measuring 1.1 x 1.1 x 0.5 cm (Picture 4). Under a microscope it gave a picture of a mucous cyst, and no malignant changes were seen confirming our diagnosis of a simple congenital ranula.

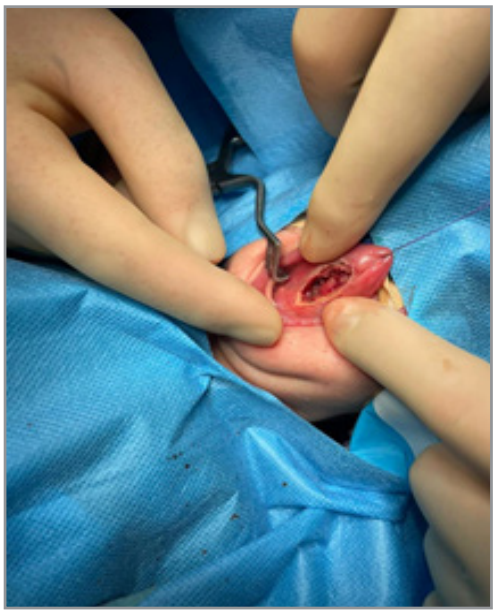

Figure 3: Dissection and Excision of the ranula

Figure 4: Gross appearance of the ranula

She stayed in the NICU for a total of 16 days after which she was discharged home with ENT clinic follow up in 2 weeks which showed total resolution of the cyst with complete healing of the wound without any complications, as for her feeding she had no issues and was feeding and sucking well.

Discussion

Ranula can present in many forms, one is as a fluctuant swelling that is blue in color lateral to the midline of the lower mouth. While other larger ranulas present as a mass in the neck that extends down through the mylohyoid muscle. In our case, the ranula was found above the floor of the mouth attached to the

tongue and pushing it upwards almost obliterating the airway.

As most approaches to reach a diagnosis history taking, and physical examination are the most important two to narrow down the differentials towards a more probable diagnosis. In the case of a ranula that works as a sole tool to diagnose a simple ranula. However, in the case of a more complex or a deeper ranula, further investigations are required such as ultrasounds or CT/MRI.

In our case we started with the tool that has the least expense and no radiation, ultrasound, which showed a fluid filled cyst. As this ranula is not of a straightforward presentation, we had to have a better look at the anatomy using an MRI with contrast which showed a large midline anterior sub lingual cyst (Picture 2A, 2B, 2C) led to the conclusion of simple congenital ranula.

There is some controversy regarding the treatment protocol. Recommendation as per the medical literature is to observe asymptomatic lesions as they may resolve spontaneously. Other treatment options include aspiration, cryosurgery, marsupialization, placement of silk suture in the dome of ranula, and excision of the cyst with or without sublingual gland excision.

In cases other than a congenital ranula the salivary gland that has caused the ranula to appear in the first place should be removed which leads to lower recurrence rate. One thing we need to bear in mind is that ranula lacks an epithelial lined cell wall but is lined by a condensation of connective tissue, therefore, when excising the pseudocyst there is no need to completely remove it. Instead, you can treat it with marsupialization or simple removal of the cyst.

Ideally, imaging and gross appearance of the aspirated fluid lead to the diagnosis of a ranula, hence the need to send the fluid to be evaluated becomes less significant. In our case, the borders of the cyst were cut open with a bipolar where thick greenish fluid was secreted from the cyst. Dissection and Excision of the whole sac of the cyst was done and sent for histopathology. Grossly the specimen was white smallest measuring 0.5 x 0.5 x 0.2 cm and largest measuring 1.1 x 1.1 x 0.5 cm (Picture 4). Under a microscope it gave a picture of a mucous cyst, and no malignant changes were seen.

Complications that commonly occur during or after ranula removal are recurrence of the lesion and injury to lingual nerve that would cause decrease sensation in the tongue and submandibular gland duct damage. Less common complications are the formation of a hematoma, infection, and dehiscence of the wound. Thankfully no complications occurred during the operation and on follow up after 1 month there were no signs of reappearance of the cyst and the wound was healing without any complications.

Conclusion

The distinctiveness of the gross appearance and the presentation of the ranula in this case expands our thinking where a vast variety of differentials arise. When approaching any challenging case, the right way and keeping an open mind to the different possibilities and outcomes to reach the right or most probable diagnosis. As rare as a ranula is, we got to witness a new presentation that is different from how a typical ranula appears.

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