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A VERY RARE CASE OF FISH BONE IN SUBMANDIBULAR SALIVARY GLAND CAUSING INFLAMMATION: A CASE REPORT

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ABSTRACT

In the Mekong Delta, fish is a popular food, especially fish with small, hard bones, and people have a habit of eating quickly. Hence, they are the most common foreign objects in the oropharyngeal cavity among most patients. A 67-year-old male patient presented to our clinic with a painful swelling in the submandibular gland region that had persisted for five weeks. He did not recall any previous history of foreign objects entering the area, either through the oral cavity or the skin. The patient reported that the swelling had decreased in size after receiving treatment at a local hospital, but it did not fully resolve. By using the echography and CT scan, we determined the foreign body in the submandibular gland (suspecting a fish bone). So the patient was undergoing an operation to remove the foreign body, after the surgery, we removed one fish bone (about 15-16mm in length). This is a sporadic case of a fish bone in the submandibular gland without the penetrating site at the oropharyngeal cavity or skin. Therefore, in a patient with swelling of the gland like this, one should undergo imaging tests to determine the cause and establish a correct treatment.

Keywords: Salivary gland inflammation, submandibular salivary gland, foreign body, fish bone.

1. INTRODUCTION

Foreign bodies in the oropharyngeal cavity are a regular problem in the ENT department [1]. In the Mekong Delta, fish is a popular food, especially fins with small and hard bones, which is why they are often ingested quickly. As a result, they are the most common foreign objects among the majority of patients. Fish bones that are accidentally swallowed typically become lodged in areas such as the tonsils, base of the tongue, posterior pharyngeal wall, and piriform sinus. Foreign objects left for a long time can cause serious complications, including inflammation, infection, abscess, and death. We report a sporadic case in which a patient had a fish bone become lodged in the oropharynx and subsequently migrate into the submandibular salivary gland.

2. CASE REPORT

2.1. History

A 67-year-old male patient presented to the clinic with a painful swelling in the submandibular gland region that had persisted for five weeks. He did not recall any previous history of foreign objects entering the area, either through the oral cavity or the skin. The patient reported that the swelling had decreased in size after receiving treatment at a local hospital, but it did not fully resolve. He then went to Can Tho University Hospital of Medicine and Pharmacy for further examination. On examination, the swelling measured approximately 2 × 3 cm and was painless to touch. No fistula was noted on the skin in the affected region, the surrounding area, or in the floor of the oropharynx.

2.2. Radiographic Features

The patient underwent a thorough evaluation and necessary paraclinical tests. Ultrasound of the submandibular salivary gland revealed a thick echogenic structure measuring approximately 16 ×

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1 mm, surrounded by heterogeneous fluid and an increased vascular signal. Computed tomography (CT) of the neck revealed a dense, radiopaque structure within the left submandibular gland, suggestive of a foreign body, accompanied by evidence of an inflammatory reaction in the surrounding tissue. Based on the clinical findings and paraclinical test results, a diagnosis of submandibular gland inflammation due to a foreign body was established.

Figure 1. Patient presented with a mass in the region of the left submandibular salivary gland

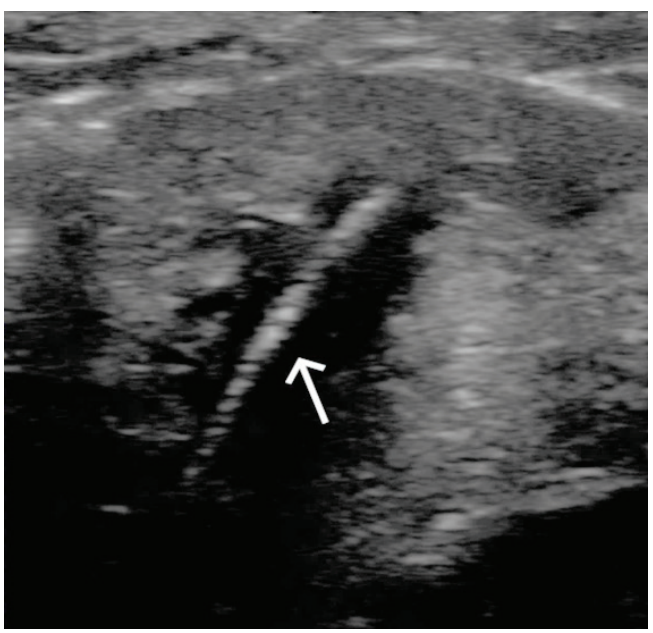

Figure 2. The ultrasound image is suggestive of a foreign body, indicated by a white arrow

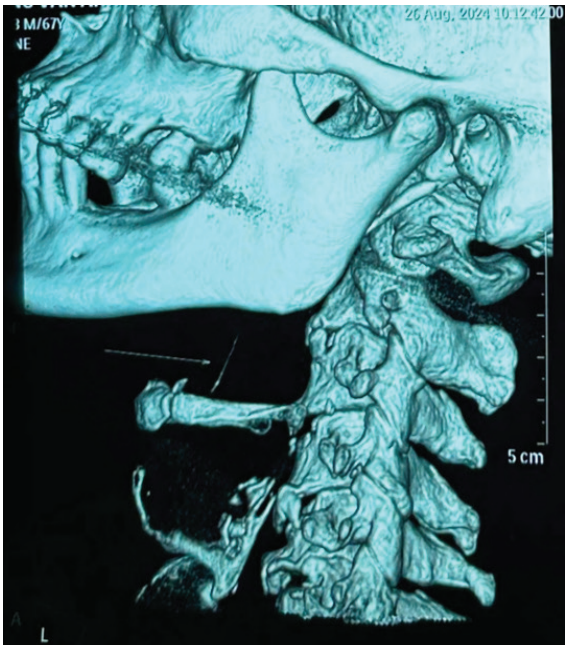

Figure 3. The CT scan reveals a foreign body, indicated by a white

2.3. Treatment

The patient underwent excision of the left submandibular gland under general anesthesia. The location of the foreign object was determined using ultrasound guidance to identify the shortest approach to the target. A 4 cm incision was made in the skin over the left submandibular gland, and the surgical field was widened to expose the gland's surface. An ultrasound probe was then used intraoperatively to precisely locate the foreign object within the upper lobe, with a probe needle serving as a landmark for its identification. An incision was made in the upper lobe of the gland at the marked location, exposing the proximal end of the foreign object. A sharp fish bone was removed from the submandibular salivary gland using curved mosquito forceps. Double-layer suturing was performed to prevent postoperative salivary leakage. The incision was then meticulously closed layer by layer to restore the patient's regular anatomical and cosmetic features.

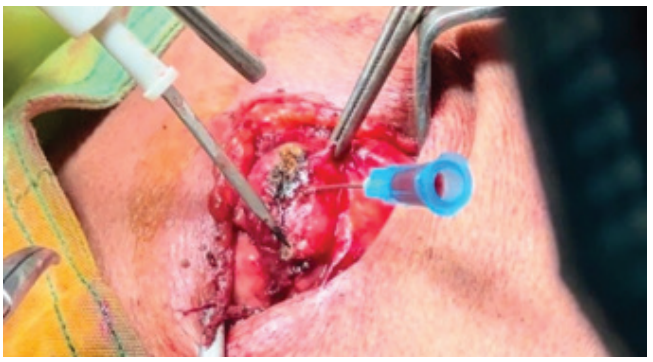

Figure 4. The position of the foreign body was marked using a 14 G needle

Figure 5. The foreign body was identified as a fish bone, broken into two parts

Figure 6. The size of the foreign object was compared to a 1 cc syringe for reference

During the operation, no pus was observed inside the submandibular gland; therefore, intraoperative antibiotics were not administered. Postoperatively, prophylactic oral antibiotics (amoxicillin/clavulanic acid, 2 g per day) were prescribed for seven days to prevent infection at the surgical site and within the gland.

3. DISCUSSION

Foreign bodies, particularly fish bones, causing inflammation in the submandibular salivary gland, are exceedingly rare. Common causes of submandibular salivary gland inflammation include stones, foreign bodies, and external compression (e.g., dentures) that obstruct drainage [2]. Foreign objects found in submandibular salivary glands have been reported to include staples, fish bones, hair, and fingernails [3].

Similar cases have been documented worldwide. In a study by Yu involving 467 patients with swelling in the submandibular gland, only 12 cases (2.6%) were attributed to fish bone foreign bodies [4]. Other clinical reports have also described a small number of similar cases.

In our case, the absence of a fistula in the oropharynx or on the skin, combined with no reported history of a bone becoming lodged, made the diagnosis more challenging. However, the use of 3D ultrasound and multislice CT scans allowed for the accurate identification of foreign bodies, such as fish bones, embedded in the submandibular salivary gland, facilitating early intervention for the patient.

Salivary gland endoscopy is becoming increasingly popular and widely used in the diagnosis and treatment of salivary gland diseases, including those involving foreign bodies. However, its application in cases of foreign body removal remains limited, having been performed in only a few reported instances [5].

The diagnosis and treatment of foreign bodies in the submandibular salivary gland often involve surgical management. Ultrasound guidance plays a crucial role in accurately determining the location of the foreign body, enabling surgeons to perform smaller, less invasive incisions. This approach helps preserve the gland's function. During dissection, meticulous care is required to avoid bleeding, prevent damage to surrounding structures, and ensure thorough examination to locate and remove the foreign body.

4. CONCLUSION

A fish bone in the submandibular salivary gland is a sporadic case. Examination and a careful history of the bone stuck are essential factors in making a correct diagnosis, in combination with ultrasound and computed tomography, to enhance diagnostic

accuracy and intervene early for the patient.

5. CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

Nguyen Trieu Viet: Writing – original draft, Methodology.

Tran Khoi Nguyen: Writing – review & editing, Writing – original draft.

Tran Minh Hanh: Conceptualization, Writing – review & editing.

6. CONSENT

This case report was approved by Can Tho University of Medicine and Pharmacy and Can Tho University Hospital of Medicine and Pharmacy, and written informed consent was obtained from the patient for publication and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

7. ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This case report was approved by the Can Tho University of Medicine and Pharmacy and the Can Tho University Hospital of Medicine and Pharmacy, and written informed consent was obtained from the patient before enrollment in the study.

8. CONSENT FOR PUBLICATION

Informed consent was obtained from the patient for publication with accompanying images.

9. AVAILABILITY OF DATA AND MATERIAL

The datasets used during the current study are available from the corresponding author on reasonable request.

10. FUNDING

No funding.

11. DECLARATION OF COMPETING INTEREST

We declare that there are no conflicts of interest regarding the publication of this manuscript.

12. ACKNOWLEDGMENT

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REFERENCES

[1] Sreekanth G, Novshaba, Reddy LS, Bhushan IP. An Overview of Emergencies in Otorhinolaryngology at a Tertiary Care Centre, Telangana. Indian J Otolaryngol Head Neck Surg. 2022;74(Suppl 3):5404-5411. https://doi.org/10.1007/s12070-021-02685-8

[2] Adhikari, Rabin, and Abhinandan Soni. "Submandibular sialadenitis and sialadenosis." (2020). PMID: 32965882 Bookshelf ID: NBK562211

[3] Dar, W., Nisar, J., Batool, Q.U., & Qazi, S.M. Foreign bodies of submandibular gland and Wharton's duct: a review of literature. International Journal of Otorhinolaryngology and Head and Neck Surgery. 2020 Appr; 6(4), 803-809. http://dx.doi.org/10.18203/issn.2454-5929.ijohns20201305

[4] Chuangqi Y, Chi Y, Lingyan Z. Sialendoscopic findings in patients with obstructive sialadenitis: long-term experience. Br J Oral Maxillofac Surg. 2013;51(4):337-341. https://doi.org/10.1016/j.bjoms.2012.07.013

[5] Yu-xiong Su MD, DDS, Xiao-mei Lao BDS, DDS. Sialoendoscopic management of submandibular gland obstruction caused by intraglandular foreign body. Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology Volume 114, Issue 5, November 2012, Pages e17-e21. https://doi.org/10.1016/j.oooo.2011.09.022