



Extraluminal Migration of Foreign Body in Pharynx: The End Journey of a Stingray — A Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. Author RA wrote and conceptualized the first draft of the manuscript. Authors HE, HS and SM managed the editing together with additional idea and information. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Ingested foreign bodies are the most commonly seen emergency cases in otorhinolaryngology practice. Foreign bodies usually enter the digestive tract, and most will be passed spontaneously. Extraluminal migration of foreign bodies are relatively unusual but if it happens, it may cause serious vascular and suppurative complication. We present a 17 years old boy who swallowed a stingray fish bone. The fish bone migrated from the hypopharynx extraluminally and traversed closed to internal jugular veins. It was successfully removed by exploration of the neck and patient recovered well.

Keywords: Fish bone; stingray; migrating; extraluminal; internal jugular vein.

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1. INTRODUCTION

Foreign body ingestion is a common problem presenting to otorhinolaryngology department. Fish bones constitute more than 85% of all foreign bodies [1] as practiced in Asian in which fish bones due to practice of serving fish whole with bones [2] A swallowed foreign body can be embedded in tonsil, base of tongue, vallecula, pyriform fossa or any cricopharynx area [3] A majority of fish bones are straightforward, and uncomplicated, which can be easily removed with minimal morbidity. However, some cases may bring a significant challenge as sharp and pointed fish bones may damage mucosa, even can migrate extraluminally. These conditions may cause severe consequences, such as local infection and abscess [4], vascular complications [5], all of which can increase morbidity or even cause death.

Therefore, effective treatments should be administered as soon as possible. They are usually removed with laryngoscopy or esophagoscopy. If they are not removed, they may remain intraluminal, but in case of sharp foreign bodies, they may migrate and the final destination will be varied [6] They may migrate extraluminally and if untreated, they may result in life-threatening suppurative, or vascular complications. Computed tomography (CT) of the neck is used to diagnosis and detect the location of the migrating foreign body. We report a case of stingray bone that migrated extraluminally and required surgical removal.

2. CASE REPORT

A 17 years old boy, who accidentally swallowed a stingray bone during meals. Since that, he had persistent foreign body sensation in the throat. He still was able to tolerate orally, no difficulty in breathing, neck swelling, or other symptoms. Intraoral examinations were normal and laryngoscopy showed no evidence of foreign body in oropharynx, hypopharynx as well as laryngeal area. However, lateral soft tissue neck x-ray demonstrated radiopaque foreign body shadow at the level of C5 vertebral body (Fig. 1). Direct laryngoscopy and esophagoscopy for the removal of fish bone under general anaesthesia on the same day was done under emergency setting. Intra-operative findings noted abrasion wound at the level of 17 cm from upper incisor, however, no foreign body seen. Neck x-ray post esophagoscopy revealed the radiopaque foreign body shadow still persist. He was initially

planned for redo- esophagoscopy but in view of patient claimed no more foreign body sensation, able to tolerate orally with no other symptoms, he was allowed discharge with oral antibiotics with a one-week review date and plan for computed tomography neck if foreign body persist. On regular follow-up, patient still asymptomatic, but repeated neck x-ray showing persistent of radiopaque foreign body shadow at the level of C6 vertebral body. After advised to proceed with CT neck in view of suspicious migrating fish bone, patient finally agreed. CT scan showed left neck hyperdensity foreign body, extends anterolaterally, posterior to the strap muscles and anterior to the left carotid space with its distal tip seen embedded in the left sternocleidomastoid muscle (Fig. 2). Neck exploration under GA was done and a 3 cm stingray bone was identified, close to the left internal jugular vein (Fig. 3). The bone was successfully removed. The post-operative period was uneventful and patient was discharge on the next day without any further complications.

3. DISCUSSION

Among gastrointestinal foreign bodies, 80–90 % pass spontaneously [7] Among those, less than 1 % needs operative intervention. The majority of foreign bodies ingested become impacted in the tonsils, base of tongue or vallecula and can be easily removed in the clinic [8] In few cases the foreign body becomes lodged at one of the constrictions along the esophagus, requiring removal by esophagoscopy under general anaesthesia. In even fewer cases, the foreign body penetrates the esophageal mucosa and migrates through it [6] If a fish bone stuck in the throat, it must be removed because of its linear and sharply pointed contours, higher like hood of migration. After initial event of foreign body penetration, patient may become symptoms free or develop persistent symptoms due to foreign body lodgement or due to its complications. They may cause suppurative complications such as deep neck abscesses, mediastinitis [9] or vascular complications due to penetration of carotid artery, its branches and the internal jugular vein [10] Cases with life-threatening complications have been reported. Chung et al. reported four cases of potential life-threatening events following fish bone migrations to the soft tissues of the neck. These consisted of recurrent deep neck infection for two years, penetration of the facial artery, hematoma of the floor of the mouth and development of

retropharyngeal abscess [11] The fish bone can emerge near to the subcutaneous tissue or even from the skin if the fish bone is able to migrate passing through the complexities of vital structures in the neck [12] The thyroid gland is one of the very uncommon final destinations [13] Not uncommonly patient may present with symptoms of a suspected foreign body in the

hypopharynx or esophagus but after laryngoscopy and esophagoscopy under general anaesthesia, no foreign body is found. The mucosal abrasions or lacerations sustained during the passage of the foreign body can cause persistence of symptoms. If the foreign body is radio-opaque, it can be shown in radiograph neck x-ray.



Fig. 1. Radiopaque foreign body at the level of C6 vertebral body



Fig. 2. Axial computed tomography showing left neck hyperdensity foreign body adjacent to carotid space

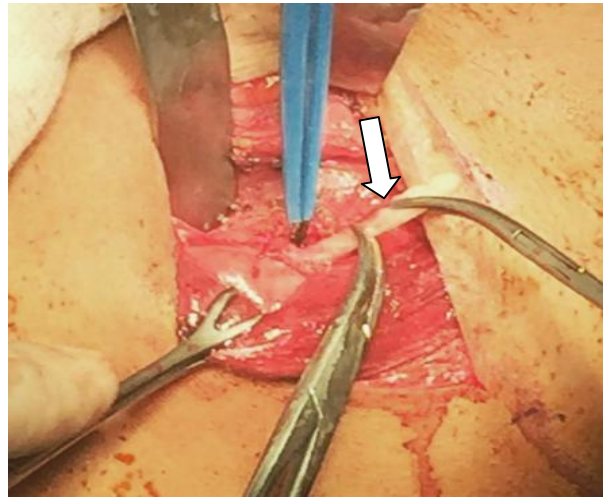


Fig. 3. A 3cm stingray bone was identified oriented horizontally in neck, with inferior end of bone embedded into the substance of left sternocleidomastoid, with superior end of bone overlying the left IJV

The diagnosis and the exact location of foreign body can be established with computed tomography (CT) of neck which provides a roadmap for surgical intervention. Certain studies have demonstrated the usefulness of CT scan for the detection of fish bone as an esophageal foreign body. According to the Akazawa et al.'s report of 76 cases, the sensitivity and specificity of CT scan were 100% [14] whereas, Eliashar et al. reported a sensitivity of 96.7% and specificity of 100% in 30 patients with suspected fish bone ingestion [15]. The choice of their treatment modality is largely determined by the location of the foreign bodies and their relationship with the vital structures. The most accepted mode of treatment for the migrated foreign bodies is surgical removal under general anaesthesia with CT scan as a guide. A majority of migrated foreign bodies require external approach for their removal. Removal of the foreign body will prevent the occurrence of life-threatening complications

4. CONCLUSION

This case report shows a presentation of stingray bone which had migrated extraluminally in the neck. The migration was suspected based on suggestive history, a positive finding on lateral neck radiography, and a negative finding on esophagoscopy. A CT scan is useful to determine the precise the location of the foreign body, and the relations with neighbouring structures. The chances of a successful

exploration the neck via external approach will be high with the CT scan as a guidance.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s). Informed consent was obtained from the patient.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Leong HK, Chan R. Foreign bodies in the upper digestive tract. *Singapore Med J.* 1987;28:162-5.
2. Lu PK, Brett RH, Aw CY, Singh R. Migrating oesophageal foreign body – an unusual case. *Singapore Med J.* 2000; 41(2):77–9.
3. Tang P, Singh S, Shoba N, Rahmat O, Shivalingam S, Gopala KG, Khairuzzana B. Migrating foreign body into the common carotid artery and internal jugular vein—A rare case. *Auris Nasus Larynx.* 2009 30;36(3):380-2.
4. Jiang D, Lu Y, Zhang Y, Hu Z, Cheng H. Aortic penetration due to a fish bone: A case report. *J Cardiothorac Surg.* 2020;15: 292.

5. Pang KP, Pang YT. A rare case of a foreign body migration from the upper digestive tract to the subcutaneous neck. *Ear Nose Throat J.* 2002;81(10):730–2.
6. Johari HH, Khaw BL, Yusof Z, Mohamad I. WJCC. World. Migrating fish bone piercing the common carotid artery, thyroid gland and causing deep neck abscess. 2016 16;4(11):375-9.
7. Kikuchi K, Tsurumaru D, Hiraka K, Komori M, Fujita N, Honda H. Unusual presentation of an esophageal foreign body granuloma caused by a fish bone : usefulness of multidetector computed tomography. *Jpn J Radiol.* 2011;29:63–66.
8. Adil T, Btissam B, Othmane B, Hassane N, Youssef R, et al. A foreign body in the pharynx migrating through the internal jugular vein: Case report of unusual complication. *otolaryngology.* 2014;4:172. DOI: 10.4172/2161-119X.1000172
9. Karol C, Slobodan M, Jovancevic L. Complicated hypopharyngeal perforation caused by a foreign body. *Medicinski Pregled.* 2007;60:391-6.
10. Chung SM, Kim HS, Park EH. Migrating pharyngeal foreign bodies: a series of four cases of saw toothed fish bones. *Euro Arch Otorhinolaryngol.* 2008;265:1125-9.
11. Chung SM, Kim HS, Park EH. Migrating pharyngeal foreign bodies: a series of four cases of sawtoothed fish bones. *Eur Arch Otorhinolaryngol.* 2008;265:1125-9.
12. Shaariyah MM, Salina H, Dipak B, Majid MN. Migration of foreign body from postcricoid region to the subcutaneous tissue of the neck. *Annals of Saudi Medicine.* 2010;30(6):475.
13. Hohman MH, Harsha WJ, Peterson KL. Migration of ingested foreign bodies into the thyroid gland: literature review and case report. *Ann Otol Rhinol Laryngol* 2010;119:93-8.
14. Akazawa Y, Watanabe S, Nobukiyo S, Iwatake H, Seki Y, Umehara T. et al. The management of possible fish bone ingestion *Auris Nasus Larynx.* 2004;31: 413–416.
15. Eliashar R, Dano I, Dangoor E, Braverman I, Sichel JY. Computed tomography diagnosis of esophageal bone impaction: a prospective study. *Ann Otol Rhinol Laryngol.* 1999;108:708–710.

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