

A rare case of a sharp foreign body on the vocal cord

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Abstract

A foreign body (FB) in the upper aerodigestive tract is a common clinical problem that presents as acute emergency. Sharp FB, such as fish bone or chicken bone, commonly lodges in the tonsil, base of tongue, vallecula or pyriform fossa. Dislodgement of a FB into the laryngopharynx is very rare and specifically onto the vocal cord is extremely uncommon. This case report illustrates a rare case of a sharp FB that was dislodged into the airway and stuck on to the right vocal cord, which was removed under local anaesthesia.

Introduction

A foreign body (FB) in the upper digestive tract, especially fish bone, is a common clinical encounter in the emergency setting. Although fish bone was found to be the most prevalent FB in the upper aerodigestive tract, the incidence of fish bone impacted in the larynx is only 4.2%.¹ Impaction of fish bone requires urgent removal. Complications may arise due to the nature of fish bone itself, which has sharp edges that can puncture and penetrate the adjacent soft tissue.^{2,3} Besides that, fish bone in the larynx has the tendency to get dislodged into the lower airway. This will make the retrieval process more difficult.

Case summary

A 57-year-old Malay man, with no past medical illness, presented with a 6-hour history of odynophagia after taking breakfast with fish. He claimed that he had a bout of cough during eating. It was associated with odynophagia but there was no vomiting, shortness of breath or hoarseness of voice. Initially, he tried to remove it himself by finger manipulation but failed. He immediately came to the Emergency Department and was referred to the otorhinolaryngologist.

Examination showed that the patient was not in respiratory distress and no stridor was audible. Oropharyngeal examination was normal and no FB was seen. A 70° laryngoscopy under local anaesthesia revealed a sharp fish bone pierced into the left vocal cord (**Figure 1**). Otherwise, the vocal cords did not appear swollen and the laryngeal inlet was patent.

The throat was sprayed with xylocaine (Lidocainum 10%). Kaluskar forceps were used to remove the fish bone (**Figure 2**). The T-shaped fish bone had two sharp-pointed ends (**Figure 3**). He was treated as an outpatient and discharged with oral amoxicillin-clavulanate 625 mg twice daily and thymol gargle 15 ml thrice daily for 1 week. A follow-up 70° laryngoscopy performed 2 weeks later showed normal appearance of the vocal cords.



Figure 1. Fish bone pierced the left vocal cord

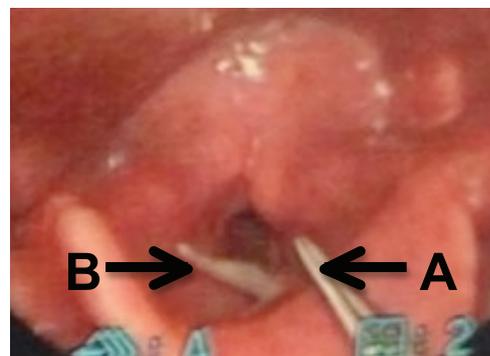


Figure 2. (A) Kaluskar forceps were used to remove (B) fish bone



Figure 3. T-shaped fish bone with two sharp-pointed ends

Discussion

Fish bones commonly lodge in the upper alimentary tract. The palatine tonsil, base of tongue and vallecula being the common sites.¹ Physiologically, the sphincteric functions of the larynx effectively protect any FB getting into the lower respiratory tract. This mechanism is achieved by adduction of the true vocal cords and false vocal cords as well as closure of the laryngeal inlet by the epiglottis.⁴ Therefore, the chance of accidental inhalation of FB into the airway is rare as compared to dislodgement of FB in the digestive tract. In our case, the patient had about of coughing whilst eating. The protective mechanism during swallowing was compromised. This may explain how the FB found its way into the laryngeal inlet. A patient with neurological deficits, for example, following a stroke may be at increased risk of aspiration.⁵ It was reported that even though rare, the commonest FB in the laryngopharynx is still the fish bone.⁶

A great majority of patients with FB in the upper aerodigestive tract present with odynophagia, which accounted for 82.8%.¹ Fewer patients experienced dysphagia, vomiting, choking and change of voice. Due to the unpleasant symptoms, the majority of patients came early to the hospital or health centre and delayed presentation is quite uncommon. It was reported that 94.6% of FB in the upper aerodigestive tract were removed within 48 hours.⁷ Office examination using the 70° laryngoscopy or flexible nasopharyngolaryngoscopy is a useful method

to visualise the presence of FB located in the upper aerodigestive tract. Commonly, a plain lateral neck radiograph is sufficient to diagnose a FB lodge in the upper aerodigestive tract. The sensitivity and specificity of plain soft tissue neck radiograph in impacted fish bone cases were reported to be 54.8% and 100%, respectively.⁸ However, 48% of fish bone are radiolucent, and diagnostic accuracy is low because fish bone are consistent with varying radiodensity of cartilage and bones.⁹ The CT scan is reserved for cases of soft tissue swelling with no evidence of fish bone opacity in plain radiographs or in patients who developed complications following fish bone ingestion such as abscess formation.

Sometimes, the removal of the FB is possible under local anaesthesia as demonstrated in our case. However, this procedure needs full cooperation from the patient. If the FB is located at the more proximal part such as the anterior pillar or tonsil of the oral cavity it can be removed without difficulty and sometimes can be removed at home. Retrieval of fish bone at the base of the tongue, vallecula and hypopharynx under video laryngeal telescopic guidance has been shown to be safe and easy with better visualisation of FB.¹⁰

If the fish bone enters the oesophagus, it may require removal using an oesophagoscope under general anaesthesia. FB ingestion is also a common presentation in a district clinic or among general practitioners. Therefore, this case provides useful information guiding primary care doctors when providing information to the patients regarding the procedures that can be done.

Conclusion

The peculiarity of fish bone in the larynx warrants urgent removal to avoid unwanted complications. Most of the patients will present with acute symptoms to the family physicians or general practitioners and urgent referral is warranted. Prompt intervention can be done during the first consultation. In the case described, removal under local anaesthesia is possible in a fully cooperative patient.

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