# Fish bone migration presenting as a neck lump

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## ABSTRACT

Fish bones are one of the most common foreign bodies encountered in the throat. Migration of ingested fish bones can occur if they are not removed. The final destinations of the migration vary. Some remain embedded in the soft tissues causing discomfort and some impose additional complications such as abscess formation. If the fish bone migrates externally without any obstacles from the neck structures, the possibility of reaching the skin is present. We report a case of an ingested fish bone which presented with neck lump after 21 days of ingestion in a 47-year-old Malay lady. Imaging confirmed the fish bone nearly reached the skin, embedded on the outer side of the left sternocleidomastoid muscle.

**Keywords: Complications, foreign bodies, foreign body migration, ingestion**

## INTRODUCTION

Fish bones are one of the most common foreign bodies encountered in the throat. Usually the patients are able to tell the type of fish they ate and the approximate location of the foreign body sensation. Tonsils are the most common site where fish bones get lodged. Occasionally, they get lodged in more distally and further investigations are needed. A fully embedded fish bone in the mucosa of the aero-digestive tract can be difficult to detect and can be missed during examination. Migrations of embedded foreign bodies, especially pointed objects such as fish bones can occur and the final location depends on the route taken. Some can manifest with significant life threatening complications. Interestingly, some can remain embedded in the tissue without any manifestations for months or years.

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## CASE REPORT

A 47-year-old Malay lady presented with a history of progressively worsening sore throat for the previous three weeks. A few days prior to her presentation, she had noticed a small lump that had developed on the left side of her neck (Figure 1). She admitted to having ingested a fish bone and since, her sore throat had persisted. She had sought treatment and was given a course of antibiotic. However, her symptoms persisted and later she developed a neck lump that brought her

**Fig. 1: Left neck swelling with inflamed overlying skin.**

to our attention.

Examinations of the oral and oropharynx cavities revealed no obvious abnormalities. Neck radiographs showed an elongated opaque foreign body that was situated lateral to the airway at the level of C5-C6 (Figure 2). The unusual sign of a neck lump with the suspicion of a migratory fish bone led us to arrange a computed tomography scan for confirmation. The scan confirmed the presence of a fish bone which was now embedded in the lateral aspect of the left sternocleidomastoid muscle, very near to the skin (Figure 3).

Exploration under general anaesthesia was arranged. Using a one-centimetre horizontal incision on the neck skin overlying the left sternocleidomastoid muscle, the foreign body (fish bone) was identified and was safely removed. The patient's symptoms improved and she made a good recovery. She was discharged fives days after hospitalisation without any further complications.

## DISCUSSION

A missed foreign body in the throat can be dormant for years without producing any symptoms or complications. However, owing to the nature of sharp pointed ends such as fish bones, migrations can occur. [1] Migrations are facilitated by neck muscle contraction. The direction of the bone (more perpendicular to the aero-digestive tract) can hasten the migration to the adjacent structure. There are a variety of presentations and final positions of migrated fish bones. The thyroid gland is one of the very uncommon final destinations. [2, 3]

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,

**Fig. 2: Presence of fishbone confirmed lateral to the airway on posteroanterior view**

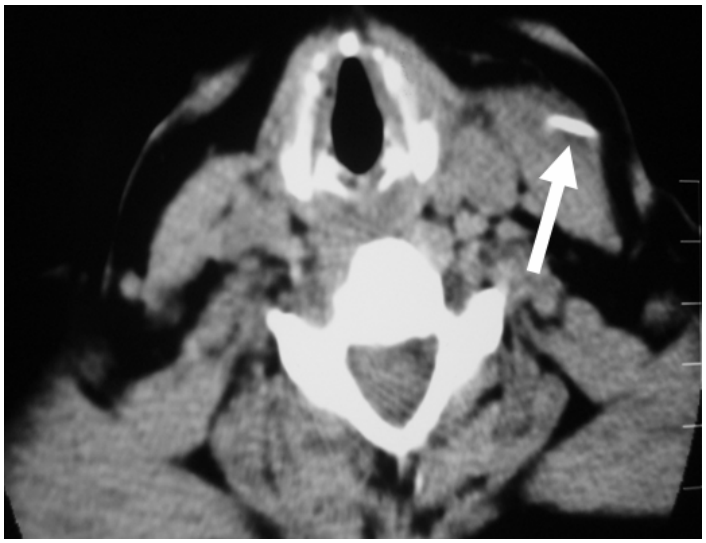

**Fig. 3: Axial computed tomography image showing the migrated fish bone embedded in the left sternocleidomastoid muscle (white arrow).**

penetration of the facial artery, haematoma of the floor of the mouth and development of retropharyngeal abscess. [4]

If the fish bone is able to migrate passing through the complexities of vital structures in the neck, its emergence near to the subcutaneous tissue or even protrusion from the skin is possible. However, in such cases, a computed tomography scan is warranted before retrieval (whether by pulling or neck exploration) in order to avoid further damage to the adjacent structures. [5] In cases whereby the extrusion is complete, no intervention may be needed. [6]

The onset of presentation for a migrated fish bone to present itself also varies. It can present with acute symptoms of rapid neck swelling with toxic symptoms even after one day post ingestion. [7] Not uncommonly the foreign bodies may remain quiescent for years before presenting with a complication and there is no correlation between mortality and the duration of the foreign body's retention. [8]

A retrospective study on suspected foreign bodies in the aero-digestive tract conducted in South India showed that 90% of cases were positive for retained foreign bodies. In terms of location, the majority of them were in the pharyngo-oesophagus (86.2%). In 106 out of 300 patients, a fish bone was the most common foreign body found. Among these 300 patients, 12.2% had complications related to the impaction of the foreign bodies in their aero-digestive tracts. [9] The authors concluded that no foreign body in the upper aero-digestive tract should be left alone hoping that it will come out spontaneously.

Not uncommonly patient may present with symptoms of a suspected foreign body in the hypopharynx or oesophagus but after laryngoscopy and oesophagoscopy under general anesthesia, no foreign body is found. The figure can reach up to 20% of cases and most of these upper aero-digestive foreign bodies were coins, fish or chicken bones. [10, 11] The persistence of symptoms may be due to the mucosal abrasions or lacerations sustained during the passage of the foreign body. These

organic foreign bodies, including fish bones may get impacted and remain quiescent in the soft tissue. In these type of cases, observation may be needed as to confirm that the retained foreign bodies do not cause damage to the aero-digestive structures.

Conway *et al*. reviewed 51 adult patients with upper gastrointestinal foreign body ingestion who presented to the Department of Surgery, Detroit Receiving Hospital, and they found that 75% of cases were related to eating and most of whom were eating meat. True foreign bodies were found in 13 patients (25%) and included a screwdriver, a ballpoint pen, spoons, coat hanger pieces, batteries, and latex gloves. [12] Swallowed fish bone was not seen in this series and was most probably due to the fact that fish bones commonly get stuck in the oral or pharyngeal areas. As such, these types of cases usually end up seeing an otolaryngologist. In addition, Western populations are used to consuming boneless fish. Furthermore fish is consumed less compared to meat as a source of protein.

In conclusion, migration of a missed foreign body especially a fish bone is not uncommon. The direction and final destination will determine the clinical presentation and complication that may occur. Patients must be thoroughly evaluated and if the initial visit reveals no abnormality, a close observation is recommended especially if suspicion of a foreign body remains high. Persistence of symptoms warrants computed tomography imaging, which is helpful in determining the presence of the migrated foreign body and this will also be useful for the planning of any surgical interventions.

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