

Case Report

The impacted oro-pharyngeal fish bone-surgeon's dilemma

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Received: 12 December 2022

Accepted: 20 January 2023

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ABSTRACT

Pisces are a delicacy on the table of almost every non-vegetarian household. Unfortunately, pharyngeal impaction of fish bones is a frequent emergency in the oto-rhino-laryngological clinics or trauma units of tertiary health care facilities. Sequentially the sites of retention noted are the lymphoid tissue of tonsillar fauces, the coffin corner, the base of the tongue, either valleculae and the pyriform sinuses. Lancinating pain on deglutition with a typical history is diagnostic, therapy necessitating timely intervention to avoid an untoward sequel. It poses a queer situation for the laryngologist whether to go ahead and straightaway attempt to extract the same under local anesthesia or wait for the requisite 6 hrs for administration of general anesthesia. The waiting duration being equally painful and a testing period for the patient and the surgeon alike. The latter is more apprehensive about deeper migration of the bone. The out-patient extraction in a cooperative individual was undertaken with a three-handed modality, adopting an angled viewing telescope and respective instrumentation.

Keywords: Foreign body, Fish bone, Oro-pharynx, Impaction, Video-assisted telescopic

INTRODUCTION

The oto-rhino-laryngologist in clinical practice often faces a panicky situation with an individual wincing in pain following a meal with fish as one of the dishes. Thereafter either one embarks to manage it or conveniently refer the person to a higher facility.¹

Being thin and not radiopaque routine plain radiography, the quick and inexpensive modality is unlikely to pick up this foreign body in the initial stage. Though a barium study can do so by delineation of a filling defect, but it is quite time consuming.

Neglect on behalf of the patient, attendants or the treating physician is consequent to a myriad of events, with localized cellulitis, cervical phlegmon, pharyngo-oesophageal perforation, sepsis, mediastinitis or pneumothorax. Vascular injury too can be expected depending on the location of the fish bone and migration

during phases of deglutition. Sometimes it may even prove fatal.²

The imaging studies CT scans and MRI usually are undertaken when a complication has set in.

The tongue musculature, tip lateral border, and the base facilitate the sojourn of the food bolus from the incisors to the upper oesophago-gastric sphincter. Any sharp contaminant in the bolus is likely to get anchored in the tonsils, tonsilo-lingual sulcus, base tongue, vallecula or the pyriform fossae. This, happens so in the first or the second stage of deglutition.

Outpatient indirect mirror/direct tele-pharyngolaryngoscopy can assist in visualization and thereby disimpaction and extraction of the extraneous object.

Early diagnosis and intervention in fish bone impaction is essential to avoid morbidity and mortality.

Intervention in foreign bodies is determined by the age, nature, site of impaction and the time period between ingestion and clinical manifestations.³

We discuss an intriguing patient of fish bone impaction in the oropharynx and the inexpensive outpatient therapeutic modality adopted to disimpact and extract it.

CASE REPORT

A 28 year old gentleman presented with uneasiness in the throat after a lunch which included locally available fish of the Singhara variety (Figure 1). There was marked irritation deep to the angle of the mandible on the left side. Deglutition too was painful. He could digitally localize the source of irritation to the left tonsillolingual sulcus. The symptoms were noted almost immediately after the meal which was taken about three hours back. Digital palpation was deferred and tongue spatula compression was directed to the opposite side to avoid further embedding of the fish-bone in the oropharyngeal tissues.

Under xylocaine 10% spray anesthesia and in a sitting position, an opd three handed intervention was undertaken. The assistant carried out the anterior thumb index finger tongue grip protrusion while the author visualized, disimpacted and thus retrieved the fish bone. Visualization was with a 70-degree telescope held in the left hand and instrumentation by an angled laryngeal forceps held in the right hand. The fish bone was extracted from the distal part of the tonsillo - lingual sulcus near the lateral pharyngo-epiglottic fold (Figure 2).

It was silvery white in color and was 3 cm in length. Post removal being quite fragile it broke in the tip of the forceps and a cm was left as an exhibit (Figure 3) Fortunately it had broken outside the oral cavity. There was an uneventful recovery and he was prescribed antiinflammatory analgesics and was relieved.



Figure 1: Singhara fish.

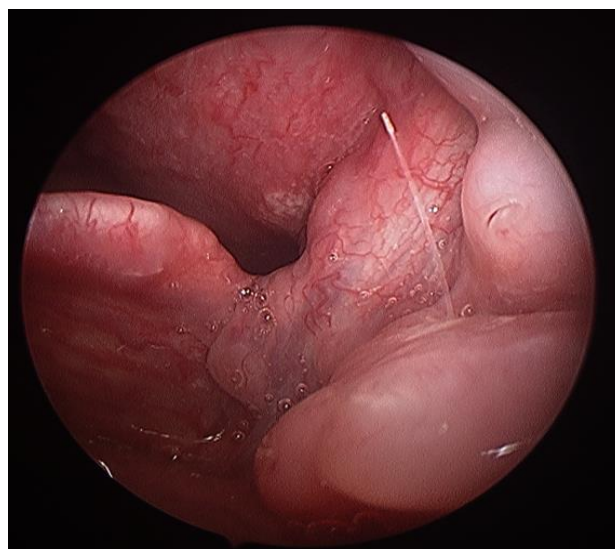


Figure 2: Fish bone impacted in the tonsilo-lingual sulcus.



Figure 3: Fish bone extracted from the patient. (Silvery white remaining 1 cm length).



Figure 4: Laryngo-pharyngeal fish bone extraction forceps.



Figure 5: Oropharyngeal fish bone extraction forceps (straight).

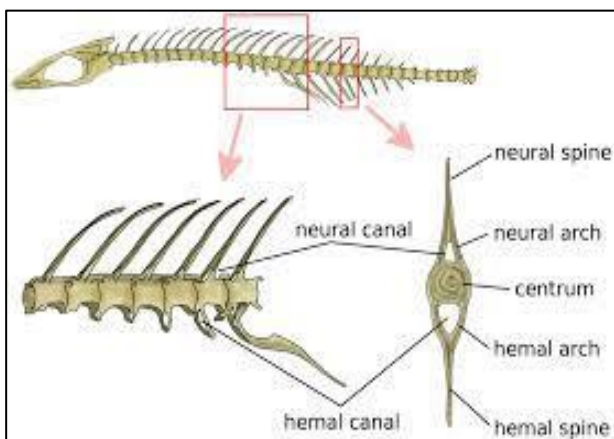


Figure 6: Schematic representation of the spine and vertebral anatomy of a ray-finned fish.²¹

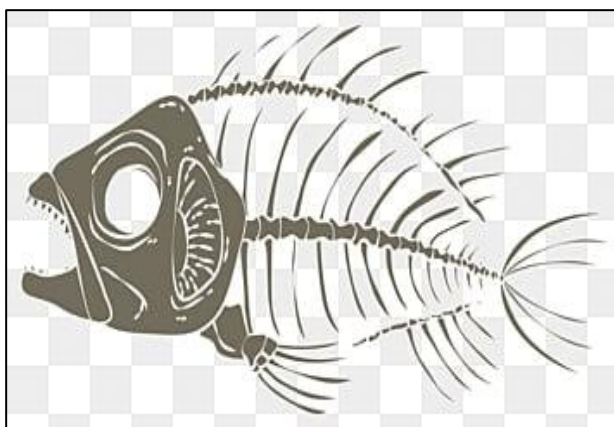


Figure 7: Fish bone/spine schematic.

DISCUSSION

In non-vegetarians vis a vis individual preference and regional availability, chicken or fish bones get impacted in the mucosa of the upper aero digestive tract. The

laryngologist frequently encounters a fish bone, proximal to the upper oesophago-gastric sphincter.⁴

Poluri et al studies have reported an equal incidence of occurrence of fish bone impaction in either gender.⁵

Fishes of almost all species have a skeleton of sharp spiky bones (Figure 6 and 7).

The sharp bone embedded deep inside the bolus usually passes down a traumatically. Sometimes masticatory activity in the oral cavity brings the bone out of the bolus. Usually, they resemble a spear or a lancet with one or both sharp ends. The fish bone may either lie superficially or penetrate slightly in the tosillo-lingual sulcus, tonsillar crypt valleculae, pyriform fossa or the base of the tongue.

Symptoms frequently are irritation at one point accompanied by odynophagia. Usually, the individual can digitally localize the foreign body.

Thus, guided by the subject's localization of pain, a naked eye tongue spatula or telescopic zero- or seventy-degree assessment the laryngologist can detect the irritating bone.

Digital palpation and Mackintosh laryngoscopy should be avoided lest it may further embed the foreign body in the soft tissues; frequently at the base of the tongue.

The passable fish bones generally abrade the pharyngeal mucosa of the soft palate, ary-epiglottic folds, post cricoids and leave a telltale 'ecchymotic' sign and a localizing "pricking" sensation.

In the cervical region perforations of the posterior pharyngeal wall with retropharyngeal abscesses are likely.⁶⁻⁸ In the thoracic region esophageal perforation with mediastinitis and pericardial trauma with cardiac tamponade have been reported. In the abdomen gastric perforation with peritonitis is likely.⁹⁻¹¹

Plain radiographic evaluation of the neck and chest though is the primary investigative modality undertaken to delineate the fish bone, but unfortunately it has a poor sensitivity and specificity for fish bone detection at the upper digestive tract.¹²

The computed tomography (CT) scan is resorted to, when complications have set in. It confirms the presence and site of impaction or migration of the bone, and even the extent of damage to adjacent tissue planes or viscera.¹³

In many patients with a strong history of fish bone ingestion, neither clinical examination nor any investigation can detect the foreign body. Surprisingly the symptoms subside with passage of time. Either there was a passable fish bone or symptomatic minor abrasions;

might have probably occurred in them which later healed thus one became asymptomatic.¹⁴

The base of tongue and the tonsils were the predominant site of fish bone impaction in the Knight et al series.¹⁰ While Swain et al reported tonsil, tongue base and the vallecula in that order.¹⁵

A patient with a neglected or a missed fish bone is likely to present as a surgical emergency with retropharyngeal abscess, mediastinitis, mediastinal suppurative collection, pyo-pneumothorax, and pseudo-aneurysm of the aorta.¹⁶

Knight et al, Polcrova et al, Sam et al and Lee et al studies emphasized the necessity of an early removal of the impacted fish bone. Delayed intervention increases the morbidity and mortality.^{11,17-19}

Antibiotics are not routinely prescribed after extraction of fish bone except in traumatized pharyngeal mucosa by the bone or by the surgeon during extraction maneuvers.²⁰

Management of fish bone impaction utilizes conventional head light naked eye or zero- or seventy-degree endoscopic video monitor visualization. Disimpaction and extraction maneuvers are undertaken with curved or straight laryngeal forceps under local spray anesthesia.

As the fish bone was slightly infero-laterally impacted in our patient a 'three handed technique' adopting an angled viewing telescope and angled laryngeal forceps (Figure 4) it could be extracted. A straight forceps can be used in those visualized on depressing the tongue (Figure 5).

Another outpatient technique promoted by Anand and Omori et al for laryngeal biopsies can be utilized, where the subject sits relaxed on a chair or table and the flexible naso-pharyngoscope is maneuvered transnasally and positioned to visualize the oro-laryngo-pharyngeal image on the monitor. The positioning is carried out either by the examiner or an assistant. The tongue are held forward by the patient himself. Curved laryngeal instruments then negotiated transorally.^{22,23}

Vis a vis the potential for life threatening sequel of fish bone impaction to arise, at the upper digestive tract, it is vital to detect and retrieve at the earliest.

CONCLUSION

Fish bone impaction in the oro-laryngopharynx is a medical emergency that necessitates urgent outpatient intervention lest one may deteriorate to untoward sequel. A three handed retrieval modality utilizing under angled telescopic visualization, tactile subject feedback, and local atomizer anesthesia can be adopted in the outpatient clinic setting.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Munjal M, Puri S, Munjal S, Puri S, Grewal H, Talwar S et al. The impacted oropharyngeal fish bone-surgeon's dilemma. *Int J Otorhinolaryngol Head Neck Surg* 2023;9:241-5.