

**Case Report**

# Migrating ingested wooden toothpick presenting as a neck lump: A case report

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**Abstract** Foreign bodies (FB) are most often lodged in the upper digestive tract and amongst the common encounter in outpatient clinic. In most instances, the ingested FB passes uneventfully through the gastrointestinal tract without any harm but in certain cases, it can migrate extraluminally and lead to serious complication. Long standing migrated FB can cause devastating complications like neck abscess and injuries to the major blood vessels. In the present case, a wooden toothpick had migrated to the soft tissue of the neck. A careful and detailed history with clinical-radiographic investigation helped to locate the ingested FB and aided in its successful removal.

**Keywords:** abscess, foreign body, migratory, neck.

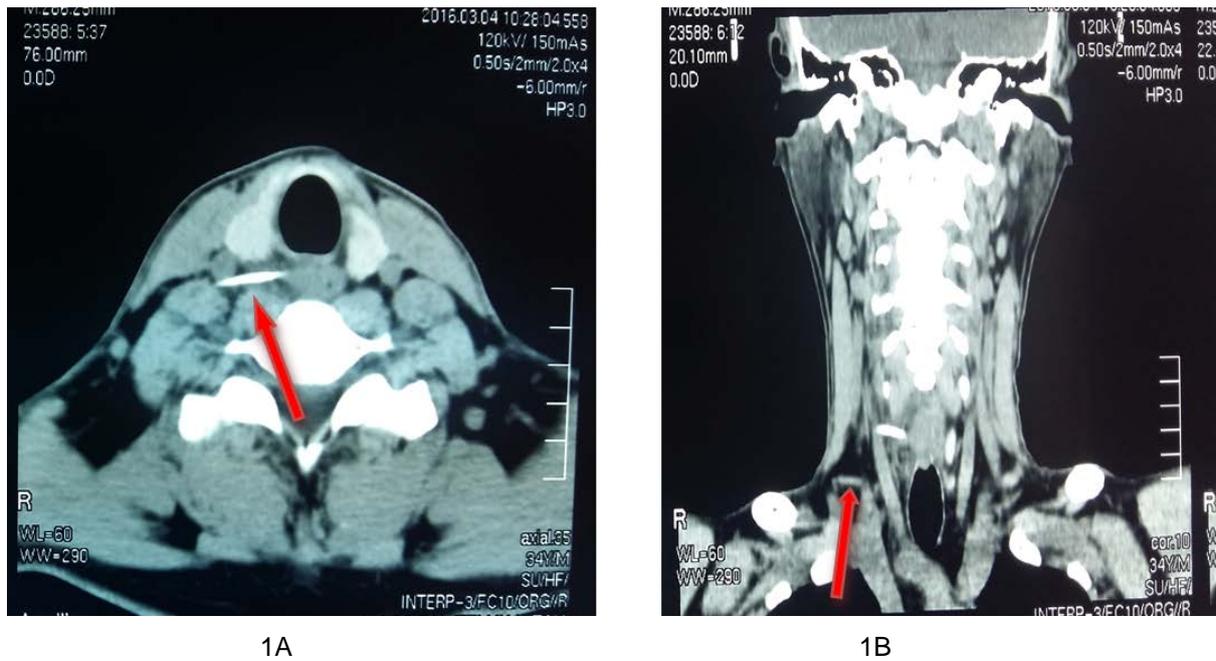
## Introduction

Foreign bodies (FB) lodged in the neck region have the tendency to migrate owing to the various active and passive muscular movements in this anatomical region (Divya *et al.*, 2013). Therefore, sharp FB has higher tendency to migrate. Certain cases can lead to life threatening mortality from injury to the adjacent vital structures and severe sepsis (Uyemura, 2005). Computed tomography (CT) of the neck is of great assistance in diagnosing a migrating FB in which surgical exploration is mandatory in such situations. Rare FB such as toothpick causing migration is an extremely unusual phenomenon. It is more difficult if the history is not suggestive of any incidental ingestion of such object.

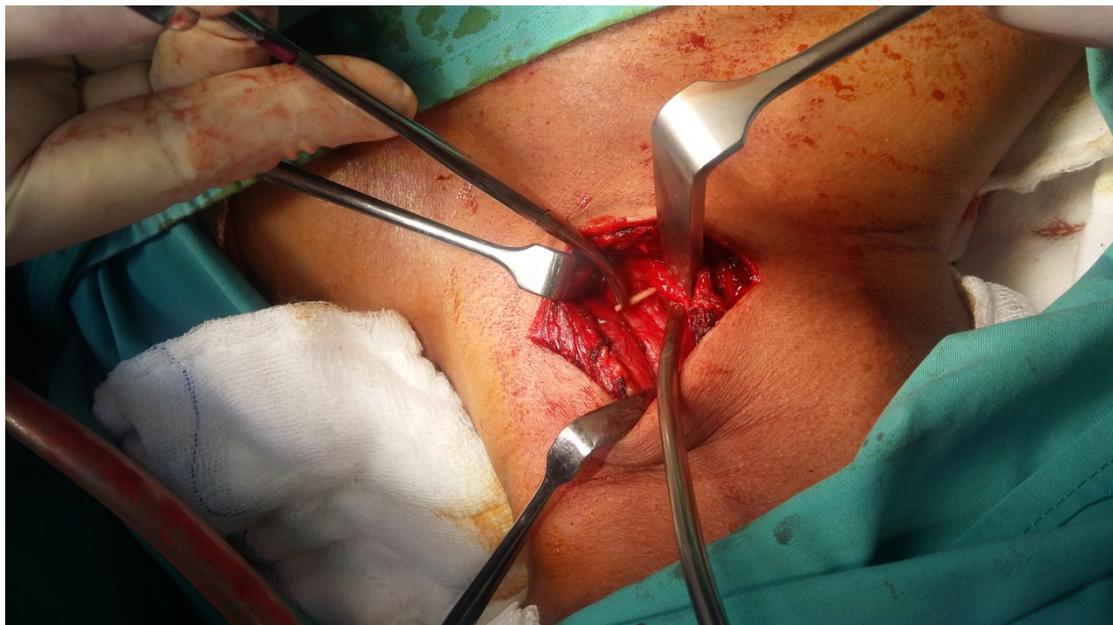
## Case report

A 34-year-old healthy male presented with pain and swelling over the right side of his neck for the past 3 days. The pain was sharp in nature and aggravated on swallowing. He could not recall any history of FB ingestion. There was a small tender swelling measuring 2 cm x 2 cm over the

right neck and the remaining throat examination and flexible nasopharyngolaryngoscopy were normal. Neck radiograph also revealed normal findings. The patient underwent direct laryngoscopy and rigid esophagoscopy, but no FB was noted. However, the symptoms persisted. The CT scan of the neck performed later demonstrated a linear hyperdense structure at the right para-esophageal region at thyroid/C7 vertebral level, abutting the posterior wall of the right internal carotid artery (ICA). It measured about 2.3 cm in length (Fig. 1). The patient was scheduled for surgical neck exploration and FB removal via external transcervical approach over the right neck. About 5 cc of pus was drained superior to the thyrohyoid muscle. Surprisingly, the FB was wooden toothpick that was below the thyroid lobule and attached to sternothyroid muscle (Fig. 2). The wooden toothpick was removed, and the neck wound was washed with povidone. Postoperatively, the patient was given intravenous antibiotics and the recovery was uneventful. The pain was completely relieved and subsequently he was discharged well.



**Fig. 1** Linear hyperdense structure at right para-esophageal region at thyroid/C7 vertebra, abutting posterior wall of right ICA as visualized in axial (1A) and coronal view (1B).



**Fig. 2** A wooden toothpick found below the right thyroid lobe and attached to sternothyroid muscle.

## Discussion

Ingestion of FB is a common phenomenon and it can cause devastating complications in some rare unfortunate cases. Swallowed FB may lodge itself in the upper gastrointestinal tract and rarely enters the airways. Entrapment in the upper gastrointestinal tract is the most common complication following ingestion (Foo, 1993; Lue *et al.*, 2000). The most common sites are at the level of the tonsils, base of the tongue, vallecula or pyriform fossa. In the present case, patient presented with an acute symptom such as throat pain, dysphagia, and odynophagia with negative history of such event. Normally an adult will be able to tell the episode. In the present case, patient was unaware that he had ingested a toothpick. It was only confirmed during surgical exploration. The toothpick can be incidentally swallowed especially if it breaks while the patient using it, or it is accidentally embedded in the food that the patient took as a meal. It is more difficult in the present case to obtain the diagnosis of ingested toothpicks as patient usually unaware of using it.

Sharp FB can penetrate the mucosal lining and lodge into the deep spaces of the neck. Abscess is expected to be formed and neck swelling is the usual presentation. Internal carotid artery puncture (Yang, 1991), internal jugular vein thrombophlebitis, brachial plexus injury and FB within the thyroid gland were the reported complications (Jemerin and Arnoff, 1949; Al Muhanna *et al.*, 1990). Movement of esophagus during deglutition as well as active and passive neck movements can promote the migration. Most commonly the migrated FB will be found during laparotomy (53%), endoscopy (19%), imaging studies (14%) and autopsy (12%) (Li and Ender, 2002). Toothpicks ingestion has high potential to cause complications like bleeding, and perforation due to its sharp nature.

A plain radiograph is usually the initial investigations and most commonly requested. It may or may not detect the FB, depending on the degree of opacity and the level of impaction. The FB is usually and easily identified if it is impacted in the cervical esophagus, as compared to the one in tonsils or base of tongue (Li and Ender, 2002). FB must be suspected too if there is a

presence of widened prevertebral soft tissue and retropharyngeal air pockets. The sensitivity and specificity of plain neck radiograph in the detection of FB were 39% and 72% respectively (Lue *et al.*, 2000). Imaging with CT scan is better with higher sensitivity. Besides, CT scan also can help to identify complications such as perforation of vessels or abscess formation. In the present case, CT scan showed its superior value in the detecting and locating the migrated FB to the right para-esophageal region at thyroid/C7 vertebral level, abutting the posterior wall of the right internal carotid artery. However, luckily no vessel injury was noted.

In most straight forward cases, the FB can be easily removed. However, in cases of migration or abscess formation, surgical exploration under general anesthesia is indicated. The surgical approach is determined by the location and their relationship with the vital structures. Pre-operative evaluation with CT scan will help in the decision making (Shergill *et al.*, 2015). In the present case, the FB was removed via external transcervical approach after it was identified with the CT scan. It is very important to exactly locate the FB as it can minimize the injury to the adjacent structures intraoperatively.

The surgeons should anticipate intraoperative complications like bleeding from the major vessels. In the present case, the sharp-pointed wooden toothpick was found below the right thyroid lobe and adhered to sternothyroid muscle. It was removed surgically by the transcervical approach without any complications.

## Conclusion

FB often can be overlooked as the history may not always be forthcoming and patients may present with non-specific symptoms. A high index of suspicion and a diligent search is crucial to prevent more sinister complications. The migration of FB can cause danger to the neighboring vital structures and impose significant morbidity and mortality. CT scan is important in establishing early diagnosis, locating the target area and facilitates planning of surgical exploration.

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