

Migrating Foreign Body in the Thyroid

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Abstract: Foreign bodies have routinely been found in pharynx and esophagus. Sometimes they penetrate the pharynx and find their way into the neck. Normally if they have sharp edges like metal clips or Fish bones, finding their way into the neck is high. However they will be easily identifiable in radiographs. Rarely, a foreign body of non- metallic or non-radio-opaque nature may find its way into the neck, where it may evade the clinician's detection. We have one such case presented to us where the radiological findings were none and the only indication is a strong history by patient. We are presenting our experience with removal of foreign body (acrylic denture with tooth) from thyroid lobe through neck exploration. We strongly recommend the use of markers in the making of acrylic dentures.

Keywords: Foreign bodies, Alimentary tract, Migrating foreign body, Neck exploration Acrylic dentures, Thyroid embedment

INTRODUCTION

Impaction of a foreign body in the gut is a problem seen in nearly all otolaryngological practices. Foreign-body ingestion, penetration and migration may lead to serious morbidity or even death. Foreign bodies in the hypopharynx and cervical oesophagus, particularly fish bones, are a common complaint in ENT practice. A swallowed foreign body can penetrate the alimentary tract and nest itself in the neck to avoid detection. Fortunately, the development of sophisticated investigations and instruments has allowed us to easily remove most of these foreign bodies by indirect or direct laryngoscopy. However, in some cases, sharp foreign bodies can perforate the upper digestive tract and migrate in to neck. Then it would be impossible to see or remove these foreign bodies by direct laryngoscopy. In such circumstances, serious complications can occur as the foreign body with sharp edge may damage the great vessels and nerves during propulsive movement of deglutition [1]. Prompt diagnosis is essential to the management of a perforating foreign body. The specific nature of symptoms is very helpful in localizing the site of the foreign body. Though X-rays are useful in identifying the foreign bodies, they can be misleading due to calcification of upper airway cartilages or foreign body being radiolucent. Computed tomography (CT) is considered to be the study of choice in such cases. Oesophageal penetration and migration of oesophageal foreign bodies into the thyroid gland is extremely rare with only occasional case reports appearing in the medical literature over the years [2]. We report an

unusual case of an ingested foreign body (acrylic denture) that perforated the esophagus and penetrated the thyroid gland. A neck exploration was required to remove the foreign body. This is probably the first case report where a denture, embedded in the thyroid, was removed by neck exploration.

CASE REPORT

A 37-year-old female patient was referred to our institute for an ingested foreign body which was not traceable on a normal as well as a digital X-ray. Her history was suggestive of a swallowed a denture with one Tooth, two weeks ago followed by odynophagia. She was also giving a history of painful swelling in the neck of 3 days duration without any fever. On examination oral cavity, oropharynx, larynx and hypopharynx were normal. Neck examination revealed a hard tender swelling in the lower part of left side of the neck just anterior to sternocleidomastoid muscle. Plain X-rays of neck were done 3 times outside in a period of 10 days and showed no evidence of any foreign body in any of the films. The radiological investigations were repeated at our hospital, but no foreign body could be detected. She was asked to get a CT scan –neck, but could not get it done due to poor financial state. She was taken up for direct laryngoscopic and oesophagoscopy examination along with consent for neck exploration if required. Oesophagoscopy revealed a hard gritty feel of a suspected foreign body in upper oesophagus which could not be visualized, but felt on external manual pressure. Neck exploration was considered and a

vertical incision in the left lower part of neck was given, the strap muscles were divided and retracted. On palpation a hard nodular swelling in the left thyroid lobe was felt. At this juncture, retractors were applied to strap muscles and thyroid lobe to approach the tracheo-oesophageal groove. However, the carotid sheath was found to be firmly adherent to the area of dissection and hence the procedure was abandoned. Then it was decided to open thyroid gland directly anteriorly with all precautions to handle the bleeding that is often expected. The gland was cut vertically and retracted through which the foreign body was delivered (Fig.1). To our surprise there was no bleeding at all when the thyroid was cut and the foreign body was a denture with one tooth (Fig. 2). On examination we found that the foreign body, a 3 cm. long acrylic denture (Fig. 3) had pierced the oesophagus and had come to lie within the thyroid lobe without any major complications. Thyroid split was sutured by using 3/0 vicryl and the neck wound was closed by 3/0 silk. A tube-drain was kept for 48 hours. Nasogastric tube was kept for one week after which she was encouraged having oral feeds which she tolerated well without any salivary leak. She came back for follow up without any complications.



Fig. 1: Splitting the thyroid (left) with stay sutures



Fig. 2: Delivery of denture with tooth from thyroid lobe (left)



Fig 3: A 3 cm length denture with single tooth

DISCUSSION

It is not a common event for a foreign body to pierce the gut and migrate into neck. However there are many reports of fish bones finding their way into the neck due to their sharp edges [3]. In general, metallic objects, sharp needles, and fish bones were known to perforate the oesophagus and lodge in the neck. They may remain silent for years or may lead to vascular complications [4] and sepsis. Foreign body embedment into thyroid is quite rare and so far only reported series found only fish bones to be the culprit [2]. In our case an acrylic denture with one tooth was found within the thyroid gland. No doubt the denture has a sharp edge and within one week it was comfortably embedded in the thyroid lobe. Contrary to our expectations, it never leads to salivary fistula or any parapharyngeal abscess. We could not get a CT scan neck, which is ideal to do, though the foreign body may be found elsewhere by the time surgery is undertaken.

Sinha and Shotton [5], observed that the foreign body migrated into mediastinum soon after its detection by radiographs, making its retrieval a highly complicated procedure. A foreign body with a positive history, without any clinical evidence either by indirect or direct laryngoscopy, with or without radiological evidence is considered 'migrated' until proved otherwise. 'Migrating foreign bodies' may be located in the neck or mediastinum.

Chee and Sethi [6] reported a series of 24 migrating foreign bodies in the neck. They observed that the foreign body at surgery may not be located exactly where it is shown to be in the CT scan. Hence, an early neck exploration is warranted despite negative X-ray findings. Migrating foreign bodies in the neck may be found in the lymph nodes, retropharyngeal space, bifurcation of carotid, or thyroid.

Cohen [7] strongly recommended early intervention within 24 to 36 hours, despite lack of physical or radiological positive findings especially in children. Acrylic dentures are light weighted and

popularly accepted due to their strength and comfort with gums. However, these appliances are potentially dangerous, if they slip during sleep. They can be aspirated or impacted in the gut. They should be removed before going to sleep daily. At the same time, there should be efforts to keep a mark on them so as to identify their position in the event of accidental aspiration or swallow. It is pertinent to draw attention at this juncture, that the foreign bodies can be put surreptitiously into the mouth of hapless children by vested family members as homicide [8].

CONCLUSION

Migrating Foreign body is a clinical entity; one should always consider when a patient presents with a strong positive history of ingestion of a sharp object, even though there is lack of physical and radiological findings. One need not be hesitant to split thyroid to locate the foreign body. Acrylic dentures should be adequately marked as it is been done for nasogastric tubes, so that they can be located in cases of accidental ingestion or aspiration.

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