

## Head and Neck Cancer After Foreign Body Ingestion

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### Abstract

**Introduction:** Ingestion of a foreign body is a common occurrence in our population. We present 2 cases that illustrate an unusual outcome of an otherwise usual occurrence. **Clinical Picture:** Two patients who presented with a history of ingestion of fish bones were worked up. The radiological findings were suspicious of a foreign body and both underwent examination under general anaesthesia. The endoscopic findings were normal. After further evaluation for persistent calcifications with computed tomography, a thyroid malignancy was found in the first patient and tongue cancer in the second patient. **Treatment:** The first patient underwent elective hemithyroidectomy and the second underwent wide excision of the tumour with neck dissection. **Outcome:** Both recovered uneventfully with regular follow-up in the outpatient clinic. **Conclusion:** There should be a high index of suspicion in patients with persistent calcifications.

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**Key words:** Calcification, Foreign bodies, Head and neck neoplasm, Incidental findings, Oesophagus

### Introduction

Foreign bodies ingested accidentally and lodged in the upper aerodigestive tract is one of the most common emergencies seen in the Otorhinolaryngology practice in Singapore. We present 2 cases which illustrate an unusual outcome of an otherwise usual occurrence. The overall management of this common problem is addressed.

### Case Reports

#### Case 1

A 46-year-old woman with a history of mitral valve prolapse presented to the otolaryngology department for ingestion of a fish bone. Lateral neck radiograph revealed a hyperdensity at the 7<sup>th</sup> cervical vertebra (C7) compatible with a foreign body in the cervical oesophagus (Fig. 1).

Rigid oesophagoscopy was performed under general anaesthesia, but no foreign body was identified. A repeat lateral neck radiograph revealed the same opacity at C7 and the patient was less symptomatic on swallowing. A decision was made to proceed with computed tomography (CT) imaging of the neck, in view of the persistent radiographic abnormality. CT showed a calcified lesion on the right side of the neck, likely to be a calcified tracheo-oesophageal node or a calcified thyroid lesion (Fig. 2).

The patient was discharged and followed up in the outpatient specialist clinic. The thyroglobulin, calcitonin and thyroid function tests were normal. The possibility of a thyroid malignancy was explained to the patient and she was advised for an elective hemithyroidectomy. The intraoperative finding was a multinodular goitre with a hard nodule corresponding to the CT scan. Histologic examination revealed lymphocytic thyroiditis with micropapillary carcinoma. The patient was subsequently followed up in the outpatient clinic.

#### Case 2

A 55-year-old Chinese woman presented with multiple medical problems, including diabetes, hypertension and a renal transplant for end-stage renal failure. She was on cyclosporin. She also had multiple recurrent carcinomas *in situ* over the face, neck, arms and trunk, for which multiple excision biopsies were done.

In August 2001, she presented with right neck pain. She had ingested a fish bone a month before. Otolaryngologic examination revealed no foreign body and lateral neck radiograph did not demonstrate a radio-opaque foreign body. CT of the neck was done as the patient continued to be symptomatic. The scan revealed a calcified density in the right pharyngeal wall, likely to be a foreign body

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Fig. 1. Lateral neck radiograph of a 46-year-old woman showing hyperdensity (arrow) at the 7<sup>th</sup> cervical vertebra compatible with a foreign body.

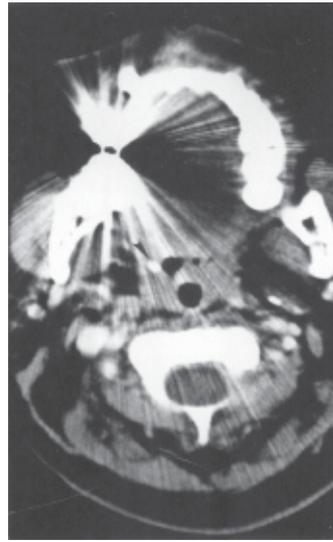


Fig. 3. Computed tomography scan of the neck of a 55-year-old Chinese woman showing a calcified density in the right pharyngeal wall, suspicious of a foreign body.



Fig. 2. Computed tomography scan showing a calcified lesion on the right side of the neck of a 46-year-old woman, likely to be a calcified tracheoesophageal node or a calcified thyroid lesion.

as reported by the radiologist (Fig. 3). She underwent examination under general anaesthesia and the intraoperative finding was an enlarged right lingual tonsil with ulceration; no foreign body was found. Biopsies were taken from the lingual tonsil and it was reported as a poorly differentiated squamous cell carcinoma (SCC). She was staged as T2N1M0 SCC of the right base of the tongue and underwent wide excision of the tumour, neck dissection with pectoralis major flap reconstruction. Her postoperative recovery was uneventful. She succumbed to renal failure the following year.

### Discussion

Calcification is seen in various tumours of the head and neck, such as papillary carcinoma of the thyroid, lymphomas, haemangiomas, lipomas and lymph node metastasis from the thyroid.<sup>1</sup> These calcifications can sometimes be seen on plain radiographs and can be mistaken for a foreign body.

In the Singapore adult population, a foreign body lodged in the throat is a common occurrence. A study by Lim et al<sup>2</sup> showed that 397 patients with a history of foreign body ingestion were seen in a local hospital over a period of 8 months. Leong and Chan<sup>3</sup> revealed that 85% of ingested foreign bodies were fish bones, with chicken bones making up a majority of the rest. Some explanations for the frequency of accidental ingestion of foreign bodies in our local population include a local preference of serving fish and chicken complete with the bones,<sup>2</sup> and the use of chopsticks in eating.<sup>4</sup> Another contributory factor is that the Chinese diner uses the teeth, tongue and lips to separate the bone from the meat in the mouth.<sup>5</sup> Thus, there is a higher incidence of accidental ingestion of bones in this population compared to the Malays and Indians, who customarily eat with their fingers. In this group, the bones are removed before the meat is eaten.<sup>2</sup>

The approach to managing a foreign body lodged in the throat is systematic. A careful history and clinical examination often alert the clinician to the presence of an impacted foreign body.<sup>6</sup> Common symptoms include odynophagia and dysphagia. A thorough examination of the pharynx and hypopharynx achieved via direct vision, indirect laryngoscopy (IDL) and flexible nasoendoscopy may reveal the foreign body or just pooling of saliva in the pyriform fossae. Pain with drinking (swallowing test) or moving the trachea and/or larynx in a side-to-side motion (tracheal rock) also suggests the presence of a foreign body.<sup>2</sup> No single feature is a good predictor for the presence of an impacted foreign body.<sup>7</sup>

A lateral neck radiograph exposing C7 to T1 vertebrae is useful in diagnosing impacted radio-opaque foreign bodies in the cervical region and assessing the retropharyngeal

space.<sup>2</sup> Perforation of the oesophagus by the foreign body may lead to abscess formation, mediastinitis, mediastinal abscess and rarely, aorto-enteric fistulae or even cardiac tamponade. This emphasizes the importance of an early diagnosis and expeditious management.<sup>8</sup>

The vast majority of foreign bodies are impacted in the tonsils, base of the tongue or the valleculae. Foreign bodies above the level of the vocal cords or within the pyriform fossae can be removed with appropriate forceps or endoscopic guidance with a guide-wire within the nasoendoscope. In about 5% of cases, the foreign body is lodged at the cricopharyngeus or at one of the other constrictions along the oesophagus, requiring rigid oesophagoscopy and removal of the foreign body under general anaesthesia.<sup>9</sup> Negative findings on oesophagoscopy indicate that the foreign body might have migrated and lateral neck radiograph should be repeated to ascertain whether this is the case. Should the diagnosis remain doubtful, CT scan of the neck is the investigation of choice and is invaluable in confirming the presence of a foreign body in the oesophagus or tissues of the neck.<sup>10</sup>

These 2 cases illustrate the management and diagnosis of patients who presented with a history of foreign body ingestion. In case 1, lateral neck radiograph showed opacities suggestive of a foreign body in the throat. Extensive investigations and a negative rigid oesophagoscopy were performed. However, the opacity remained on the repeat lateral neck radiograph. Further investigation with a CT scan showed a thyroid lesion. The second case also necessitated a CT scan of the neck as the patient continued to be symptomatic. It revealed an opacity suggestive of a foreign body. Further investigation revealed cancer of the base of the tongue.

Though rare, both cases highlight the importance that any persistent calcifications should be further investigated after a negative rigid oesophagoscopy. Under general anaesthesia, one should also be alert to any abnormalities

or suspicious lesions encountered in the pharynx and oesophagus.

### Conclusion

Foreign body ingestion is a common occurrence in our local population. A systematic approach should be employed when dealing with such cases. Though rare, a differential diagnosis of a tumour should be considered in cases with persistent calcifications, but were negative for foreign bodies. In these 2 cases, the history of ingestion of foreign bodies was a red herring. There should be a high index of suspicion, especially in any radiological findings of persistent calcifications.

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