

## Opinion

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# Migratory Foreign Bodies in the Neck: Possible Role for Endoscopic Surgery

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Foreign body ingestion is a common ENT emergency case among the pediatric population. Most of the ingested foreign bodies pass naturally through the gastrointestinal (GI) tract without any complications; however, in about 10% of these cases may require a non-operative intervention and less than 1% may require a surgical procedure. Sharp ingested foreign bodies may lodge in the base of the tongue, the palatine tonsil, the pyriform sinus, the vallecula, and the oesophagus. Only a small number of those lodged foreign bodies may perforate the pharynx or the oesophagus and even a smaller number may migrate extraluminally. Transversely oriented foreign bodies have a larger tendency to perforate the wall of the hypopharynx and the oesophagus. This happens due to a local inflammation plus the contractions of the hypopharynx muscles during deglutition which leads the foreign body to penetrate the wall. Most of these migratory foreign bodies are usually sharp objects like fish bone, chicken bone or metallic components.<sup>1,2</sup>

Depending on the direction and site of migration, those migratory foreign bodies may lead to severe complications like periesophageal abscess, mediastinitis, retropharyngeal abscess, thyroid abscess, deep neck abscess, aorto-esophageal fistula, innominate esophageal fistula, subclavian esophageal fistula, and carotid rupture. Any mass or abscess in the head and neck region might be a complication attributed to the migratory body and the medical history of the patient should be taken into careful consideration particularly taking into account any previous records of possible foreign body ingestion. Migratory foreign bodies can also be suspected to be present in any patient who has persistent symptoms following negative esophagoscopy. Computed tomography (CT) scan is the gold standard for effectively locating the migratory foreign bodies in the neck and lateral neck exploration is the procedure of choice to remove those foreign bodies.<sup>1,2</sup>

Endoscopic surgery also has been performed in treating all aspects of head and neck surgery. The results from previous studies on neck endoscopic surgery have shown at least equivalent functional and oncological outcomes. Other advantages include the avoidance of external incisions, improved functional outcomes, a post-operative pain, decreased blood loss, and shorter hospital stays. Disadvantages of endoscopic surgery include high financial cost, prolonged time for operations, need for special instruments, and expertise.<sup>3</sup>

Endoscopic surgery has been performed to remove any foreign body from the chest, abdomen, and pelvis. For example, Murugan et al<sup>4</sup> reported a case of migratory orthopedic screw in bladder which was handled endoscopically. Motallebzadeh et al<sup>5</sup> reported a case of liver abscess due to the ingestion of a foreign body that had migrated through the stomach and endoscopic removal of the fish bone was performed. von Riedenaer et al<sup>6</sup> reported the removal of a migratory acupuncture needle causing pneumothorax from the chest wall using video-assisted thoracoscopy.

In the neck, presence of migratory foreign bodies has been reported in the retropharyngeal, parapharyngeal, and carotid sheath, tracheoesophageal groove, thyroid and skin. Using endoscopic surgery, most of the neck regions to which foreign bodies may immigrate are accessed, so we can use endoscopic surgery to remove the migratory foreign bodies in the neck. In Table 1, surgical approaches are proposed to remove foreign bodies from different regions of the neck.

**Table 1:** Surgical Approaches for Removal of Foreign Bodies from Neck Regions.

	Parapharyngeal Tracheoesophageal Carotid Sheath migratory FB	Thyroid migratory FB	Retropharyngeal migratory FB
<b>Traditional Approach</b>	Lateral neck exploration	Hemithyroidectomy	Lateral neck approach
<b>Endoscopic Approach</b>	<ul style="list-style-type: none"> <li>- Supine position</li> <li>- General anaesthesia</li> <li>- A 15 mm skin incision over the anterior edge of the SCM was made through the subcutaneous tissue and Platysma at the level of the foreign body</li> <li>- A rigid endoscope was passed through the incision. The endoscope is controlled by the assistant, while the primary surgeon performs blunt dissection</li> <li>- Subplatysmal flaps were raised superiorly and inferiorly</li> <li>- Dissection between the fascia of SCM and strap muscles was done; retraction of SCM was done laterally and laryngo-tracheal system medially to explore the parapharyngeal, tracheoesophageal groove, and the carotid sheath.<sup>7</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Supine position</li> <li>- General anaesthesia</li> <li>- Injection at the subplatysmal layer of the anterior neck and oral vestibulum</li> <li>- 2.5 cm incision at the vestibule between the inferior lip and gingiva in order to reach the subplatysmal layer</li> <li>- Subplatysma dissection is done, extending down to the suprasternal notch and laterally up to the medial border of the sternocleidomastoid muscle.</li> <li>- Two Kirschner wires with a diameter of 1.2 mm are inserted horizontally in the subplatysmal layer</li> <li>- After the isolation of strap muscles, the thyroid gland is revealed and the isthmus is transected with a Harmonic scalpel after blunt dissection of the thyroid gland from the trachea</li> <li>- The dissection of the upper pole, the superior thyroid artery and vein is performed and the medial thyroid vein is also cut off using the Harmonic scalpel.</li> <li>- After preparation of the retrothyroidal area, the recurrent laryngeal nerve is identified and the inferior thyroid artery is divided.</li> <li>- The Berry ligament is then carefully divided while avoiding any injury.<sup>8</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Supine position</li> <li>- General anaesthesia</li> <li>- Boyle-Davis gag was inserted,</li> <li>- A midline incision was made through the area in which the foreign body was lodged.</li> <li>- After removing the foreign body, the pharyngeal mucous membrane is sutured.</li> <li>- The patient should be fed using a nasogastric tube for a week.<sup>9</sup></li> </ul>

FB: Foreign body.

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