ABSTRACT

Background: Foreign bodies of the aerodigestive tract are common problems faced in the practice of otolaryngology. Foreign bodies embedded in the soft tissue of the neck have been known to migrate due to muscle contractions. Not only are they challenging to identify and remove, but they can also cause injury to the great vessels of the neck.

Methods: Case report and current literature review.

Results: A 60-year-old male presented with left base of tongue pain after eating food prepared on a gas grill. CT scan localized a small radiopaque foreign body within the tongue. Despite surgical exploration under general anesthesia and fluoroscopy, the foreign body could not be localized. Postoperative CT revealed the foreign body had migrated several centimeters anteriorly into the intrinsic tongue musculature. Using intraoperative CT-guided needle localization, a very thin wire was removed from the right digastric muscle. The wire was identical to the wires comprising the brush used to clean the patient’s grill.

Conclusion: Migrating foreign bodies in the head and neck present unique surgical challenges. CT-guided intraoperative localization may be a helpful tool in the surgical management of migrating foreign bodies.

INTRODUCTION

Foreign bodies of the aerodigestive tract are common problems faced by otolaryngologists. We present a case of a migrating foreign body embedded in the tongue musculature that was removed with the assistance of intraoperative CT-guided needle localization.

CASE PRESENTATION

A 60-year-old man presented with left base of tongue pain after eating a sausage patty prepared on an outdoor barbecue grill. Physical exam showed punctate hemorrhage in the region of the left posterior circumvallate papillae, but no foreign body was visualized. CT scan localized a 1 mm x 20 mm radiopaque foreign body, consistent in appearance with a thin bone, within the musculature of the posterior tongue above the geniohyoid muscle. The patient was taken to the operating room for removal of this foreign body under general anesthesia. Despite palpation and surgical exploration of the tongue anterior to the presumed point of entry, the foreign body could not be identified. Intraoperative fluoroscopy did not identify the location of the foreign body.

Postoperative CT revealed that the foreign body had migrated several centimeters anteriorly to the left genioglossus muscle. Because the object was migrating anteriorly away from critical vascular structures, the patient was treated with antibiotics and serial examinations. Ten days later, the patient developed erythema and tendingerness of the right submental region. Repeat CT revealed the foreign body superficial to the anterior belly of the right digastic muscle. The patient underwent CT-guided needle localization of the foreign body. Surgical exploration of the submental space was performed in the operating room and local anesthesia was administered. Despite needle localization, repeat CT-guided needle localization was required before the foreign body was encountered in the surgical field. Ultimately, a very thin wire was removed from the right digastic muscle. After the wire was removed, the patient recalled that he had cleaned his grill with a wire brush immediately prior to preparing his food. The wire was identical to the wires comprising the brush used to clean the patient’s grill.

DISCUSSION

- Although improved anesthetic techniques and endoscopic instrumentation has decreased the morbidity and mortality associated with aerodigestive tract foreign bodies, they still account for approximately 3000 deaths per year. Migration of imbedded foreign bodies is a well-documented occurrence.

- The initial evaluation is frontal and lateral plain films of the neck. Plain films are particularly useful for depicting the three-dimensional structure of the foreign body. However, CT better identifies foreign bodies that are near soft tissue density, so CT should be used if plain films are negative. Both imaging modalities may fail to identify a foreign body if it is not sufficiently radiopaque.

- Removal of embedded oropharyngeal foreign bodies in the operating room generally consists of careful exploration of the oropharynx with palpation, direct laryngoscopy, and esophagoscopy as needed. If the foreign body has migrated into the soft tissue of the neck, an open cervical approach may be required.

- The use of CT guided needle localization of foreign bodies has been reported previously. Shemen et al. reported CT guided needle localization to identify an infratemporal fossa foreign body which was subsequently removed.

- The first reported case of an ingested wire bristle was reported in 1952. McMullen et al. reported three cases of ingested wire bristles. In two of their cases, coblation lingual tonsillectomy was used to remove the foreign body. The third case presented as a deep neck abscess requiring transcervical approach.

- Narrow foreign bodies can be difficult to extract, due to intraoperative migration. Migration into critical vascular structures of the head and neck is an important consideration in cases of migrating foreign bodies. CT-guided localization may be considered in difficult cases.

REFERENCES