Foreign body (toothpick) causing epiglottitis

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ABSTRACT

A 25-year-old otherwise healthy woman presented to the hospital with sore throat and dysphagia for 5 days. On her computed tomography images, thickening and edema of the right aryepiglottic fold was noted, associated with an impacted foreign body.

KEYWORDS Epiglottitis; foreign body; sore throat

Acute epiglottitis, although common in childhood, is an uncommon cause of throat pain in adults. The adult form is considered more indolent than the childhood form and is rarely associated with airway compromise. Infectious causes are more likely, which usually leads to bilateral involvement. We present a case of a young woman presenting with sore throat, who was found to have unilateral epiglottitis. The etiology was determined to be a foreign body lodged in the pyriform sinus.

CASE REPORT

A 25-year-old woman with no significant past medical history presented to the emergency department with sore throat, difficulty swallowing, nonproductive cough, and some voice change for 5 days. There was no associated fever, chills, nausea, or vomiting. She was given symptomatic treatment in the emergency department. The streptococcal throat antigen test and assays for influenza and respiratory syncytial virus were negative. Axial computed tomography (CT) images (*Figure 1a*) demonstrated diffuse thickening of the right aryepiglottic fold, with soft tissue edema that extended into the right strap muscles and right paralaryngeal fat. The left aryepiglottic fold and the tonsillar fossae were unremarkable. No peritonsillar abscess was noted. On careful evaluation, there was a 2 cm linear high-density foreign body within the right pyriform sinus, extending from its base superiorly to the level of the hyoid bone, best seen on maximum intensity projection (MIP) images (*Figure 1b, 1c*). Three-dimensional reconstruction images corroborated the

above findings (*Figure 1d*). After further questioning, the patient stated that the pain started after eating a turkey sandwich for lunch. A direct laryngoscopy and esophagoscopy was performed. The foreign body was removed and identified as a toothpick, measuring 1.7 cm, which was lodged in the right pyriform sinus (*Figure 1e*). A mildly edematous right arytenoid was noted, while the rest of the exam was unremarkable. The patient recovered well after the procedure, with resolution of pain and odynophagia.

DISCUSSION

Epiglottitis is less common in adults than in children. Complete airway obstruction and sudden death can occur with a mortality rate of 0.6% to 50%.¹ As in childhood, *Hemophilus influenzae* type B is the most common pathogen. Others include Group A and C beta-hemolytic streptococcus, *Streptococcus pneumoniae*, *Staphylococcus aureus*, and *Hemophilus parainfluenzae*.² Other rare bacterial, viral, and *Candida* species causes have also been reported. Noninfectious causes include direct trauma or thermal or caustic injuries. A foreign body should be considered as an etiology if the patient specifically reports a history of ingestion or a sensation of a lump in the throat. Even then, identification of foreign bodies can be difficult.² Unilateral involvement further suggests this etiology. A rare case of unilateral involvement has also been reported as a complication of acute suppurative submandibular sialadenitis.³ Two cases of unilateral supraglottitis secondary to inhalation of a hot wire screen during cocaine use have also been reported.⁴

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Received April 17, 2019; Revised December 2, 2019; Accepted December 9, 2019.

Figure 1. (a) Axial CT image through the neck, along with (b) MIP coronal and (c) MIP sagittal images, demonstrates asymmetric edema involving the right aryepiglottic fold (yellow arrow), also extending into the strap muscles (green arrow). Careful examination reveals a hyperdense focus embedded in the piriform fossa (red arrow), extending from the base of the piriform sinus to the level of the hyoid bone (red arrows). (d) 3D reformat image demonstrates an approximately 2 cm foreign body (of the length of the yellow line) in the right piriform sinus extending to the level of the hyoid bone. (e) After the foreign body was removed, it was identified as a toothpick measuring approximately 1.7 cm.

Foreign bodies are usually seen in children. In adults, they are seen with the elderly, patients with developmental delay, a psychiatric disorder, or intoxication, or imprisoned patients. Usually the foreign body has a food origin. While sharp foreign bodies like fish or chicken bones are more frequently impacted at the tonsils and base of the tongue, smooth ones are more frequently found at or below the cricopharyngeal muscle.⁵

Plain radiography is the initial test used in most hospitals for patients with suspected foreign body ingestion or with symptoms suggestive of epiglottitis. However, the suprahyoid area can be hard to evaluate due to the overlap of soft tissue and bone opacities. Lateral neck views can be helpful for

evaluation of hypopharynx and cervical esophagus.⁶ CT is more accurate for both detecting and ruling out pharyngo-esophageal fish and chicken bones.^{7,8} Indirect laryngoscopy or fiberoptic laryngoscopy is most commonly used for foreign bodies within the oropharynx, as it can also be used for removal.⁶

Acute epiglottitis should always be suspected in patients with sore throat and dysphagia, especially if symptoms are out of proportion to pharyngeal inflammation.² A foreign body should be considered even in the absence of suggestive history, as in our case, since the patient might not remember it or may overlook it. Timely diagnosis, otolaryngology consultation, and removal of the foreign body are important for patient management and quick symptom relief.

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