


A 3-Year-Old Male Presenting With Sore Throat and Torticollis

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Case Presentation

A 3-year-old vaccinated male with no significant past medical history presented to the pediatric emergency department (ED) with a chief complaint of cough. By history, he had a cough and nasal congestion for 1 week and a sore throat for the past 24 hours. There was no history of fever or dyspnea. His history was also negative for trauma or recent travel. He was tolerating solids and liquids well. He was taking a cough suppressant and ibuprofen with some symptomatic relief. In the ED, he was noted to be well appearing, afebrile, and hemodynamically stable, with the following initial vital signs: temperature 36.7°C, pulse 113, respiratory rate 23, pulse oximetry 98% on room air. His physical examination was remarkable for nasal congestion and an erythematous pharynx. He was able to drink fluids and was initially discharged home with a diagnosis of a viral syndrome. Three days later, he presented to another pediatric ED with congestion, sore throat, and now torticollis. He awoke that morning with limited range of motion of his neck and some drooling. He had a tactile fever the day prior which self-resolved. There was no history of vomiting. On this presentation, he had the following vital signs: temperature 37.5°C, pulse 121, blood pressure 102/60, respiratory rate 24, pulse oximetry 100% on room air. His physical examination was remarkable for a well-appearing and well-hydrated child with diffuse neck tenderness without associated lymphadenopathy. In addition, he had left-sided torticollis. There was no significant trismus or evidence of meningismus. Laboratory evaluation was remarkable for an elevated WBC (24.1 K/ μ L), an elevated CRP (2.07 mg/dL), mild hypoglycemia (65 mg/dL), and slightly low serum bicarbonate level (18 mmol/L). Due to concerns for a possible retropharyngeal abscess, a soft tissue neck plain film was obtained. This revealed

a diffuse paravertebral swelling and a 2.2 cm linear radiopaque density (Figure 1). This density was visualized on the lateral view only which was concerning for a possible foreign body. On further questioning with family, the patient's mother admitted that the patient had been eating fish earlier in the week. He was given a dose of antibiotics and transferred to another pediatric facility for a consultation with a pediatric otolaryngology (ENT) surgeon.

Final Diagnosis

Esophageal foreign body and esophageal abscess.

Hospital Course

ENT was consulted on arrival and evaluated the patient. A repeat soft tissue neck plain film revealed a 2.2 cm linear radiopaque density within the prevertebral soft tissues (Figure 2). He was taken to the operating room for a rigid esophagoscopy. This demonstrated a significant amount of purulent fluid in the cervical esophagus which was drained. After suctioning, a 2 cm fish bone was noted in the left posterior esophagus. The fish bone was removed in total and a Penrose drain was placed. Further exploration of the neck revealed an esophageal perforation with subsequent abscess. A postoperative computed tomography (CT) scan of the neck, did not reveal any residual foreign body or residual abscess. Postoperatively,

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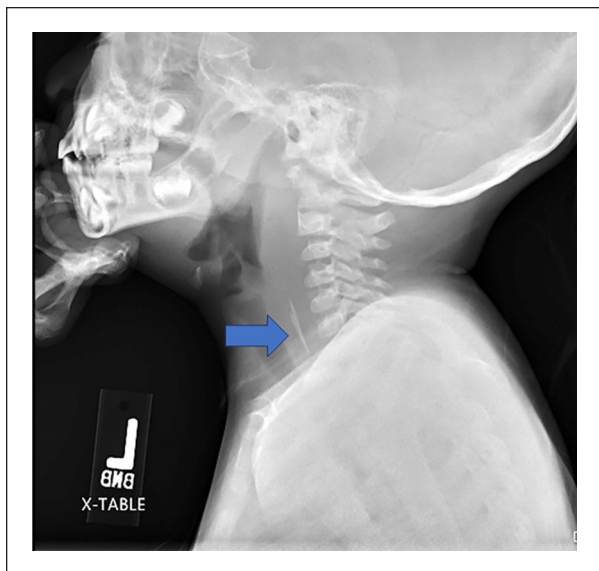


Figure 1. 2.2 cm linear radiopaque density.

the patient was admitted to the pediatric intensive care unit. He received broad-spectrum antibiotics including clindamycin and ampicillin/sulbactam. Positive wound cultures with a Gram stain of gram-positive cocci in pairs were never speciated. The Penrose drain was removed prior to discharge home. The patient was discharged tolerating feeds, on oral clindamycin, with no evidence of persistent abscess or esophageal perforation, and with ENT follow up in their outpatient clinic.

Discussion

In our case, we presented a 3-year-old male seeking medical care for persistent sore throat and torticollis subsequently determined to have an esophageal foreign body with associated esophageal perforation and abscess. In the United States, coins are the most commonly swallowed pediatric foreign body. Fish bones and other food related items are the most common worldwide.¹ Patients at the highest risk for foreign body ingestion include preschoolers (both male and female), adolescent males, and children with mental health issues.^{1,2} In addition, pediatric patients with disordered swallowing, developmental delays, or esophageal congenital defects have predispositions to foreign body aspiration.³

Most ingested foreign bodies do not require medical attention. However, those that become lodged in the esophagus, damage the mucosa, or cause caustic injury require medical intervention.^{2,4} Younger patients and patients with significant gastrointestinal (GI) history such as a history of upper GI surgery, reflux or eosinophilic esophagitis, or congenital malformations are at a



Figure 2. Redemonstration of a 2.2 cm foreign body within the prevertebral soft tissue.

higher risk for these complications.⁵ All patients presenting with concerns for foreign body ingestion should have their airway and breathing promptly evaluated. Common signs and symptoms of foreign body ingestions include gagging, drooling, vomiting, and feeding intolerance. However, it is very likely that pediatric patients will be asymptomatic.^{6,7} Therefore, the provider should have a high index of clinical suspicion for foreign body ingestion based primarily on history and presentation.⁸

Plain films should be obtained initially for cases of suspected foreign body ingestion.⁸ Of note, radiolucent foreign bodies may not be seen on plain radiographs. However, an increased distance between the cervical vertebrae and the larynx and trachea should raise concerns for a radiolucent foreign body. If this is the case, contrast-enhanced esophagography may be utilized to outline the suspected foreign body and/or see if any irregularities or deviations of the anatomy of the esophagus exist.⁹

Most pediatric foreign body ingestions only require observation. For those patients requiring treatment, rigid endoscopy is the preferred mechanism to remove the foreign body.^{10,11} The degree of esophageal injury is best ascertained through direct visualization offered by this method. If postoperative imaging is warranted, a contrast esophagram is more useful than plain radiographs of the chest for detecting esophageal perforation.¹²

Mortality and morbidity are generally low, even for patients requiring intervention. Esophageal obstruction

is the most common complication of foreign body ingestion.¹ Complicating symptoms often correlate to the anatomic location of the foreign body along the esophageal tract. Most foreign bodies located in the stomach or intestines do not typically cause problems unless there is an associated obstruction or mucosal injury.⁷ Other complications include esophageal or stomach perforation, pneumothorax, mucosal erosion, aorto-enteric fistula, pressure necrosis, and failure to thrive secondary to decreased oral intake.¹

Esophageal perforation can lead to more serious complications such as the development of a periesophageal or cervical abscess, if not treated promptly. Perforation and the subsequent formation of a periesophageal or cervical abscess are associated with the duration of time that a foreign body remains lodged in the esophagus and the shape, sharpness, and texture of the foreign body. It is vital for periesophageal and cervical abscesses to be treated immediately, as they can progress to more serious complications such as mediastinitis and mediastinal abscess. If mediastinitis and mediastinal abscesses are not appropriately managed, more severe clinical manifestations such as septicemia, pneumopyothorax, and massive hemorrhage may result.¹³

Button battery ingestion has a high risk of injury and death if not removed promptly from the esophagus. Although esophageal perforation has been shown to be associated with exposures greater than 12 hours, due to the alkaline caustic reaction, esophageal tissue liquefaction necrosis may start as early as 15 minutes after ingestion. Therefore, it is important that plain films be obtained promptly. Clinical outcomes can be determined by assessing the diameter of the button battery, as 90% of all major or fatal outcomes are associated with lithium batteries of 20 to 25 mm in diameter.¹⁴

The patient presented in our case report had an esophageal perforation due to a fish bone. Although most objects pass through the esophagus without difficulty, the risk of perforation is higher with the ingestion of sharp objects.^{15,16} Sharp objects located in the esophagus warrant urgent endoscopy for retrieval.^{7,11} Depending on the size and angulation of the object, sharp foreign bodies that have progressed beyond the esophagus may still require endoscopic removal due to the risk for possible perforation at the ileocecal valve and duodenal c-loop. A patient may be observed for clinical signs of perforation and serial abdominal plain films if the foreign body cannot be retrieved by endoscopy.⁷

Conclusion

We report a case of a 3-year-old male with esophageal foreign body and resultant esophageal perforation and

abscess. In addition to retropharyngeal abscess, an esophageal foreign body should be considered in pediatric patients presenting with cough, sore throat, and torticollis. Any sharp foreign bodies located within the esophagus require urgent endoscopy.

Author Contributions

Joseph Langham contributed to conception and design, contributed to analysis, drafted the manuscript, gave final approval. Carmen Sulton contributed to conception and design, critically revised the manuscript, gave final approval. Sherita Holmes contributed to conception and design, critically revised the manuscript, gave final approval.

Declaration of Conflicting Interests

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Ethical Considerations

All patient identifiers have been removed and informed consent was not required for this case report.

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