

Case Report

Extensive Surgical Emphysema Due to Fishbone Ingestion: A Rare Case Report

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ABSTRACT

Aerodigestive injury due to a fishbone foreign body is a widespread emergency department case. It presents with a wide range of manifestation; however, occasionally, we come across rare complaints. Surgical emphysema and pneumomediastinum is an unusual presentation described in our case report.

Keywords: Fishbone; Surgical emphysema; Neck swelling; Foreign body.

INTRODUCTION

Fishbone (FB) ingestion is a common emergency department referral. It accounts for 48% - 88% of the total foreign body cases;¹ it can present early or late. (FB) can be easily managed in the outpatient setting.² However, it can present with adverse complication, such as airways obstruction, perforation, significant vessels injury, and deep neck abscess; however, in some cases, patients may present with a rare complication such as surgical emphysema.³ We present a case report of a 16-year-old girl who presented to the outpatient department with five days history of extensive neck swelling caused by fishbone (FB) ingestion.

CASE REPORT

A 16-year-old girl presented to our emergency department with a five-day history of diffuse neck swelling after choking with a fishbone and multiple vigorous attempts to induce vomiting. She complained of having breathing difficulty when lying supine, pain on swallowing, change of voice tone, and foreign body sensation in her throat. Also, she mentioned a background history of hypothyroidism on medication. On examination, she was vitally stable (Pulse 84 bpm BP 100/60 mmHg Temperature 37.2oC). Neck examination showed extensive surgical emphysema with crepitation and mild tenderness extending from the neck to the upper chest and shoulders (Figure1). The rest of the examination was unremarkable. All laboratory tests were unremarkable. An X-ray Neck and chest showed extensive surgical emphysema (Figure 2 and

3). A computer tomography (CT-scan) with intravenous and oral contrast of the neck, chest, abdomen, and pelvis showed extensive surgical emphysema pneumomediastinum extending to the retroperitoneum (Figure 4). However, there is no evidence of oral contrast leakage from the oesophagus and free passage to the stomach. The patient family was informed about their daughter's condition, and the ENT on-call team asked to evaluate the patient. A Mutual agreement is to take the patient to the operating theatre. A small incision was done under local anaesthesia near the sternocleidomastoid muscle to relieve the air, and we fixed a drain.

Figure 1. Neck swelling due to subcutaneous emphysema

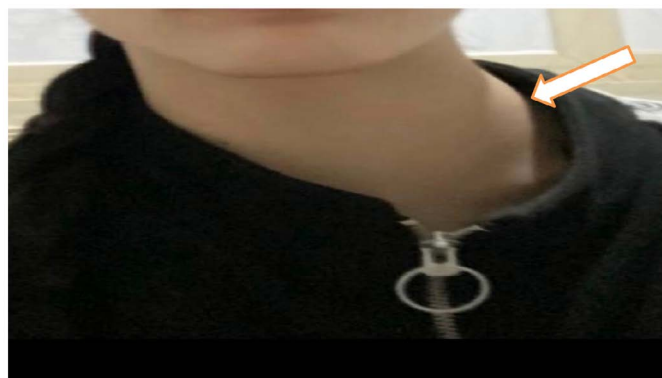


Figure 2. Plain X-ray neck with surgical emphysema



Figure 3. Plain chest X-ray with surgical emphysema

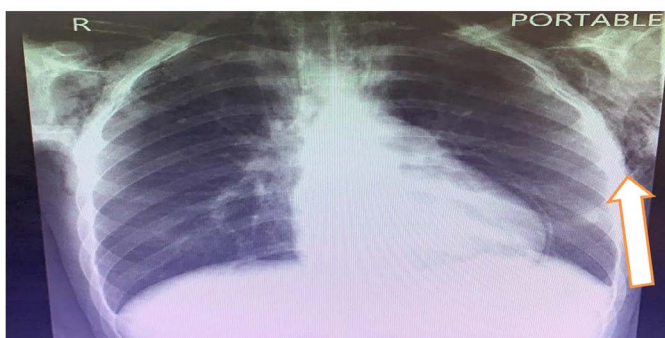
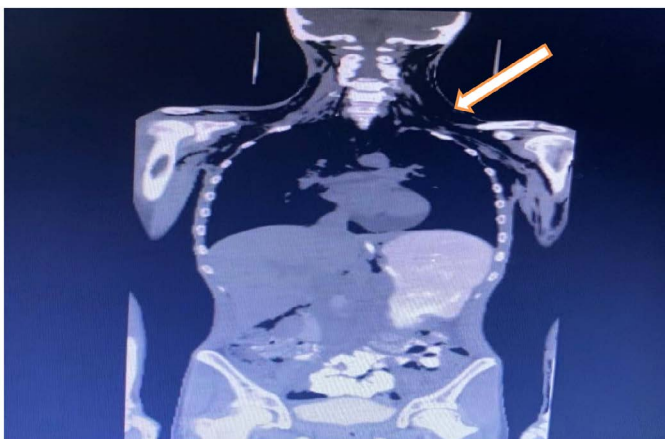


Figure 4. Coronal image of CT- scan showing the extensive surgical emphysema



Post-operatively

Postoperative recovery was uneventful, with a marked decrease in neck size (Figure 5); she received broad-spectrum antibiotics intravenously for three days and discharged home after removing the drain resuming the diet. First two weeks visit to the outpatient department was uneventful, the wound site was clean, and the neck examination was unremarkable. No complaints mentioned.

Figure 5. Post-operative decrease in surgical emphysema



DISCUSSION

Fishbone (FB) ingestion is a widespread emergency department referral. More common among children between (2-11 years) than adults.⁴ (FB) ingestion is prevalent in Asia, moderation and coastal countries.⁵ The most common site is the oropharynx and the oesophagus (86.3%).² Clinical presentation of a (FB) ingestion depends on the size, bone, location of impaction and time between the onset of symptoms and the arrival to the emergency department. It may vary from asymptomatic to more severe such as odynophagia, dysphagia, sore throat, retrosternal pain, vomiting, local inflammation, hematemesis, neck swelling and tenderness, followed by systemic manifestation, which is an indicating of perforation.⁶

Evaluation of fishbone foreign body ingestion requires a thorough history taking to obtain the type of fish species, the onset of symptoms and progression, careful examination of the oral cavity, and the tongue base. A bedside endoscopy is essential to examine the oropharynx and the hypopharynx. A plain x-ray of the neck is a good tool for diagnosing; however, some fish bones are challenging to detect. On the other hand, CT-scans are high in specificity (97.8 %) and sensitivity (100 %) in detecting a fishbone impacted in the body.⁷

Our case report is an unusual presentation due to the absence of the fishbone on X-rays and CT-scan and the presences of extensive surgical emphysema. The pathophysiology behind it is a combination of (FB) migration, vigorous tongue movement, constrictor peristalsis and induced vomiting, which increases intra-alveolar pressure and alveolar rupture; this leads to air tracking along the pulmonary vasculature, causing an extensive subcutaneous emphysema.³

Management of (FB) is the immediate removal before passing to the stomach. Fishbone ingestion account for (13-35%) of intestinal perforation caused by foreign bodies.² (FB) in the oropharynx or the hypopharynx can be easily removed with good light and tongue depressor and the use of different forceps instrument, otherwise rigid or flexible endoscopy can be an excellent alternative option. Uncooperative patients examined under general anaesthesia and extract, either surgically or endoscopy. Subcutaneous surgical emphysema is benign and rarely requires surgical intervention. It results from self-purging behaviour; therefore, patients are kept under close observation and covered with broad-spectrum antibiotics to avoid future complications.^{3,8,9} In our case, the surgical emphysema was extensive and progressive; thus, surgical intervention was necessary.

CONCLUSION

Surgical emphysema due to fishbone ingestion in a young adult is a rare presentation. It requires thorough investigation and prompt management. The pathophysiology is still not well understood due to the rarity of the manifestation. It is crucial to have more studies to serve medical in the future.

CONFLICTS OF INTEREST

None.

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