CHALLENGING RARE FOREIGN BODY REMOVAL IN COVID-19 PANDEMIC: A CASE REPORT

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ABSTRACT

A 40-year-old male in delirium secondary to withdrawal presented with a history of having severe neck pain, choking, and vomiting after self-ingestion of a broken piece of dinner fork 2 days prior to presentation. He was referred to a local hospital where rigid oesophagoscopy was tried but the foreign body could not be retrieved and was referred. Rigid Oesophagoscopy was planned with the use of personal protective equipment for removal. The procedure was very challenging but was uneventful. The main challenges were broken sharp edges in the opposite direction, previously failed oesophagoscopy, slippery metallic edges, location in the distal oesophagal junction, and the use of modified personnel protective equipment (PPE) causing fogging. The patient was discharged after two days with no symptoms. It is a rare case report with challenging oesophagoscopy performed using personnel protective equipment in the COVID-19 pandemic.

Keywords : Foreign body, Metallic, Oesophagoscopy

INTRODUCTION

The foreign body aerodigestive tract is one of the common causes of the emergency visit. There are various constrictions in the oesophagus that cause the impaction of a foreign body. Accidental swallowing coins, safety pins, toys, and button batteries are common in children.[1] Involuntary ingestion of food, meat bone, fish bones, dentures are common in adults secondary to neurological disease, pathological conditions (strictures, malignancy), and some psychiatric illness.[2,3] Foreign body can be classified as metallic or nonmetallic, edible or non-edible. Large objects get impacted whereas sharp objects can cause ulceration, obstruction, and perforation either during ingestion or removal. Though the majority of foreign body oesophagus pass spontaneously, endoscopy is performed in about 20% of cases, and open surgery in less than 1% only in cases of perforation.[4]

Rigid oesophagoscopy requires general anaesthesia and has the main advantages of continuous visual control and easier as the patient is paralyzed. Flexible endoscopy can be done as a daycare procedure, with no requirement for anaesthesia, and has recently become the method of choice for the extraction from the upper part of the digestive tract. In the scenario of COVID-19 outbreak as endoscopy is an aerosol-generating procedure, WHO endorsed guidelines on the rational use of personal protective equipment (PPE) for healthcare workers including the use of a respirator, gown, gloves, eye protection, shield, and apron.[5] These devices hinder the vision and if not properly fitted will result in fogging and make the surgical procedure even more challenging.

CASE REPORT

A forty-year-old chronic alcoholic male with a health history of excessive alcohol abuse with depressive disorder presented with the history of having severe neck pain, choking, and vomiting after reporting ingestion of a broken piece of fork and with a history of failed oesophagoscopy. The patient presented in delirium following alcohol withdrawal. He initially presented in a local hospital where oesophagoscopy was tried but the foreign body could not be retrieved and was referred to our center after two days. Radiographic imaging including X-ray soft tissue neck AP and lateral view confirmed the presence of metallic objects in the oesophagus. (Figure 1-3)Written informed consent was obtained from the patient party with the explanation of the risk of perforation and the need for thoracotomy and oesophagotomy. Surgery was performed with the use of personal protective equipment. Under general anesthesia, in Boyes Jackson position, oesophagoscope was inserted visualizing the

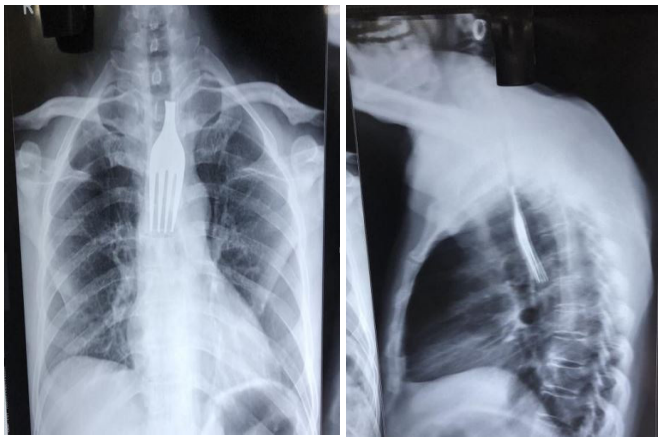

Figure I and II : Chest X-ray AP and lateral view shows the foreign body at T4 level

Figure III: Chest X-ray Lateral view shows the foreign body displaced to distal oesophagus (after failed first attempt)

lumen of the cricopharyngeal junction. The entire lumen showed multiple laceration marks. The foreign body was identified at 35 cm from the incisor teeth with sharp edges impinging the mucosa. It was pushed downward and dis-impacted and the edge grasp hold. With the rotatory movement, the oesophagus distal end was dis-impacted. The foreign body was grasped in a sharp portion and was brought to the lumen of the oesophagoscope and pulled gently. The Cuff was deflated to allow easy removal from the oesophagus. The check oesophagoscopy shows minimal ooze with no obvious tear or laceration.

The main challenges were broken sharp edges, previously failed oesophagoscopy, slippery metallic edges, location in the distal oesophagal junction, and the use of personnel protective equipment causing fogging. Intravenous antibiotics were started with the findings of erosion. Follow-up radiographic imaging was normal. The patient was discharged after two days with no symptoms

DISCUSSION

The case reported is extremely rare. On literature searching, only four cases of a fork in the oesophagus were found in the literature.[6-9]In the first two cases with some eating disorders, vomiting was triggered by gag reflex using the handle of the fork to irritate their pharynx, then it accidentally slipped and was swallowed.[7,8] In the other case, an attempt was made to stop hiccups.[9] In all cases, the fork presented with the prongs pointing up and was easy for extraction manoeuvres easier and reduced the risk of injury to the oesophagal mucosa. However, in our case, it was in the opposite direction prongs facing down.

There were many challenges in this case. First, the metallic prong was sitting in the opposite direction with a sharp edge stuck to the wall. Second, the foreign body was attempted in the other center with failed removal with trauma over the mucosa and was displaced distally at T4 level (Figure I and II) to T8 level (Figure III). Third, there was difficulty in grasping the metallic smooth surface and frequent slipping. Fourth, the location of the foreign body was in the distal oesophageal junction. Finally, with the use of mask goggle and face shield, (PPE) the vision was much obscured due to excessive fogging.

Endoscopic procedures are considered aerosol-generating procedures.[10]World Health Organization (WHO) has published an extensive guideline on the rational use of personal protective equipment (PPE) for COVID-19 and provided specific instructions for healthcare workers performing an aerosol-generating procedure on patients with COVID19. These include the use of a respirator, gown, gloves, eye protection, and apron immediately and strictly adopted in practice if at all possible.[5] The aerosol-generating ENT procedure like foreign bodies aerodigestive tract including oesophagoscopy and bronchoscopy is challenging. The use of PPE hinders the vision during the surgical procedure because of moisture and fogging.

Complications may arise in such a scenario if done by an inexperienced surgeon.

CONCLUSION

Performing aerosol-generating procedures in foreign bodies aerodigestive tract, is challenging wearing protection gears that disturb the vision. So, an experienced surgeon under proper visual guidance should perform the surgery.

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