

Mohd Shaiful Nizam Mamat Nasir, Wan Nur Anis Wan Draman,
Sakinah Mohamad, Suzina Sheikh Ab Hamid, Irfan Mohamad

Otrzymano: 03.07.2019
Zaakceptowano: 26.09.2019
Opublikowano: 31.12.2020

Nigdy nie łap na wędkę swojego brata: plastikowy haczyk na ryby w przełyku – opis przypadku

Never fish your brother: a case of plastic fish hook in the oesophagus

Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kota Bharu, Kelantan, Malaysia
Adres do korespondencji: Sakinah Mohamad, Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kota Bharu, Kelantan, Malaysia, tel.: +609-7676420, fax: +609-7676424, e-mail: msakinah@usm.my

Streszczenie Połknięcie ciała obcego jest powszechną, a w niektórych przypadkach niebezpieczną sytuacją w populacji pediatrycznej. W zależności od rodzaju, wielkości i umiejscowienia ciała obcego u pacjenta mogą wystąpić różne objawy. Celem pracy jest przedstawienie przypadku 4-letniego chłopca z zatrzymaniem niecieniującego ciała obcego w przełyku. Choć ciało obce zostało pominięte w badaniach obrazowych, udało się je skutecznie i bez następczych powikłań usunąć przy użyciu ezofagoskopii endoskopem sztywnym.

Słowa kluczowe: ciało obce, ezofagoscopia, dzieci

Abstract Foreign body ingestion is a common, yet sometimes dangerous entity encountered in paediatric population. Depending on the type, size and location of a foreign body, it can present with variety of symptoms. The purpose of this report is to present an unexpected radiolucent oesophageal foreign body impaction in a 4-year-old boy missed by imaging, but successfully removed using rigid esophagoscopy without any complications.

Keywords: foreign body, esophagoscopy, children

INTRODUCTION

Ingestion of a foreign body (FB) is a relatively common problem encountered in the paediatric population, with a peak incidence between the ages of 6 months and 6 years⁽¹⁾. Coins remain the most commonly ingested objects in the oesophagus, accounting for 60% of cases, followed by nuts, seeds and toys⁽²⁾. Complications that may arise, such as oesophageal perforation, mediastinitis or airway obstruction, make oesophageal FB a serious clinical condition. Thus, the importance of early detection and diagnosis, together with immediate appropriate treatment, are obligatory⁽³⁾. Imaging is important to confirm the diagnosis, precisely locate the FB in the oesophagus and aid in further management of the patient.

CASE REPORT

A 4-year-old boy (body weight 20 kg) was brought by parents to an emergency department due to a sudden onset of a choking episode and dysphagia. The symptoms developed after he accidentally ingested an unknown toy, as witnessed by his elder brother. Otherwise, the child was comfortable, no fast breathing, cyanosis, hoarseness, noisy breathing, or drooling. On examination, he was not in respiratory distress and no stridor was heard. Vital signs were all normal. Antero-posterior and lateral chest radiograph (Fig. 1) (within 6 hours post ingestion) revealed the presence of a small (0.5 × 0.5 cm) rounded radiopaque foreign body located in the thoracic oesophagus (at the level of T3/T4), most likely a circular metallic object. No pneumomediastinum or pneumothorax were detected. The child's status was

nil per os and he was started on intravenous fluids for hydration and amoxicillin/clavulanic acid 300 mg three times daily to cover for infection.

An urgent direct laryngoscopy and rigid oesophagoscopy were performed under general anaesthesia. Intraoperative findings revealed a piece of bluish plastic toy fish hook with double hooks in the oesophagus at the level of 16 cm from the upper incisor (Fig. 2). Fortunately, upon probing and carefully dislodging one of the hook by pushing the fish hook further down the oesophagus, we noticed that the hook was blunt-pointed. It was then removed successfully with no injury to the surrounding oesophageal mucosa, and introduction of the oesophagoscope further down showed a negative finding of the second (radiolucent) FB. There was a small magnet at the tip of the fish hook explaining the radiopaque object seen on radiograph (Fig. 3).

The child had an uneventful postoperative recovery and was discharged on the second day after the procedure. There were no complications on follow up.

DISCUSSION

This case report describes an extremely rare FB in the oesophagus, which was a plastic toy fish hook that got impacted in the oesophagus without any airway compromise. FB in the oesophagus is defined as the presence of any material, object or food in the upper gastrointestinal tract (GIT), swallowed by accident or intentionally. Compared to adults, children are more commonly affected due to their increased curiosity and hand-mouth interactions⁽⁴⁾. Heger et al. concluded that 80–90% of all oesophageal FBs can pass spontaneously, whereas the

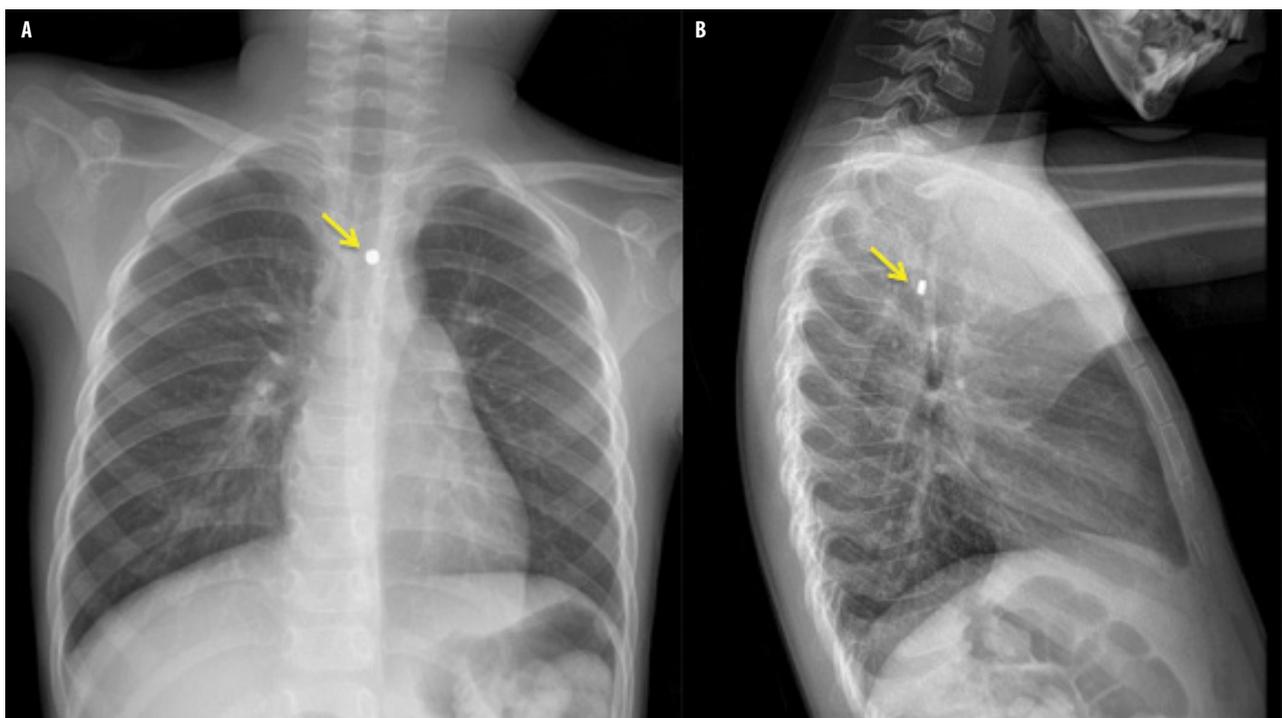


Fig. 1. A radiopaque foreign body (yellow arrow) in the chest on antero-posterior (A) and lateral (B) views of chest radiograph



Fig. 2. Rigid oesphagoscopy revealed a vertically-placed blue plastic FB, at a level 16 cm from the upper incisor with normal surrounding oesophageal mucosa

remaining 10–20% of cases need an endoscopic intervention to remove them, and only 1% require surgical intervention⁽⁵⁾. The first constriction site, which is the cricopharyngeus sphincter, is the most common site of impaction⁽¹⁾. In our case, however, the FB was impacted at the level of T3/T4, corresponding to the second constriction site, which is the aortic arch. If oesophageal perforation occurs at this point, disastrous complications such as sentinel haemorrhage, aorta-oesophageal fistula, mediastinitis and death may occur⁽⁶⁾.

Imaging studies with radiograph of the neck, chest or abdomen usually sufficient to detect a radiopaque object⁽⁷⁾. However, some cases of suspected migrating FB usually require computed tomography. In our case, the suspicious radiopaque FB seen was relatively small (about 0.5 × 0.5 cm) compared to the diameter of the oesophageal lumen (9.5 ± 2.4 mm for children weighing 20–35 kg)⁽⁸⁾ and should have been able to pass down the GIT easily. However, the image was not representative of the actual size of the impacted FB, which was larger and made up mainly of radiolucent component (plastic). Other radiolucent FBs include wood, glass, aluminium and bone fragments⁽¹⁾.

Regarding magnet ingestion, a single small magnet usually can pass through GIT without complications. However, multiple magnets or their co-ingestion with a metal FB can be harmful due to risk of mucosal entrapment between them, leading to complications⁽⁹⁾. Rare-earth magnets are more harmful than ferrite magnets due to their corrosive property⁽¹⁰⁾. In our case, the magnet was made up of ferrite, characterised by greyish charcoal coloured material.

It was partly encased by the plastic component of the toy and its surface looked intact without any sign of corrosion even 18 hours after ingestion.



Fig. 3. A plastic fish hook measuring 2 cm in width and 2 cm in length with a magnet at the tip, which was removed completely

There are various techniques to remove a FB, depending on the patient's condition, as well as the type, location and size of the object. Rigid oesophagoscopy remains the gold standard for the removal of FB from the upper oesophagus and this method was successfully used to remove the FB in this case, without any serious complications. Again, depending on the shape of the FB, several manoeuvres are needed to avoid oesophageal injury or perforation⁽¹¹⁾. Like in our case, the FB had two hooks that could cause injury to the oesophageal mucosa. However, we managed to prevent it by slowly dislodging the fish hook, pushing it slightly further and then pulling it out together with the oesophagoscope. The principle of removing a fish hook is first to identify the orientation of the sharp point of the fish hook before deciding to push or pull it out. In view of poor history from the patient and the presence of a translucent foreign body, it was crucial to search for the second FB by advancing the scope further until distal oesophagus.

CONCLUSION

A toy fish hook maybe fun to play with, but can be dangerous for children. Early intervention is crucial in preventing life-threatening complications. Therefore, public awareness among parents as well as nursery carers is needed. Children below 5 years old should be attended when playing with toys. Radiolucent toys, such as plastic, are usually missed by imaging. Hence the attending doctor should take thorough history and examination, looking for any signs of complications and manage them accordingly.

Conflict of interest

The authors has no potential conflict of interest.

Piśmiennictwo

1. Webb WA: Management of foreign bodies of the upper gastrointestinal tract: update. *Gastrointest Endosc* 1995; 41: 39–51.
2. Jackson RM, Hawkins DB: Coins in the esophagus. What is the best management? *Int J Pediatr Otorhinolaryngol* 1986; 12: 127–135.
3. Akazawa Y, Watanabe S, Nobukiyo S et al.: The management of possible fishbone ingestion. *Auris Nasus Larynx* 2004; 31: 413–416.
4. Hong KH, Kim YJ, Kim JH et al.: Risk factors for complications associated with upper gastrointestinal foreign bodies. *World J Gastroenterol* 2015; 21: 8125–8131.
5. Heger P, Weber TF, Rehm J et al.: Cervical esophagotomy for foreign body extraction – case report and comprehensive review of the literature. *Ann Med Surg (Lond)* 2016; 7: 87–91.
6. Macchi V, Porzionato A, Bardini R et al.: Rupture of ascending aorta secondary to esophageal perforation by fish bone. *J Forensic Sci* 2008; 53: 1181–1184.
7. ASGE Standards of Practice Committee; Ikenberry SO, Jue TL, Anderson MA et al.: Management of ingested foreign bodies and food impactions. *Gastrointest Endosc* 2011; 73: 1085–1091.
8. Bott TS, von Kalle T, Schilling A et al.: Esophageal diameters in children correlated to body weight. *Eur J Pediatr Surg* 2019; 29: 528–532.
9. Hussain SZ, Bousvaros A, Gilger M et al.: Management of ingested magnets in children. *J Pediatr Gastroenterol Nutr* 2012; 55: 239–242.
10. Ahmad KA, Drummond JL, Graber T et al.: Magnetic strength and corrosion of rare earth magnets. *Am J Orthod Dentofacial Orthop* 2006; 130: 275.e11–275.e15.
11. Iwamuro M, Okada H, Kawai D et al.: Endoscopic removal of a fishhook in the esophagus. *Gastrointest Endosc* 2009; 70: 550–551.