



Ingestion of Foreign Bodies: When Surgery Become Urgent

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Foreign body ingestion (FBI) is a serious event that can be life-threatening or lead to significant sequelae. We report the observation of a 40-year-old patient, who presented to the emergency room with chest pain, intermittent cough and exertional dyspnea, 4 hours after accidentally swallowing his plastic denture. The clinical examination was without abnormalities. Chest X-ray showed a foreign body in the stomach. Several attempts at endoscopic extraction were made, without success. The standard radiography can be useful for visualizing radio-opaque FB or by indirect signs. The recourse to endoscopy for diagnostic and therapeutic purposes may be essential.

Keywords: Foreign bodies; ingestion; endoscopy; surgery.

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1. INTRODUCTION

Foreign body ingestion (FBI) is a rare but serious accident in adults. Ingested foreign bodies are eliminated spontaneously by natural route in 80 to 90% of cases, require non-surgical extraction maneuvers in 10 to 20% and surgery in less than 1% of cases [1]. Although most episodes are benign, FB ingestions may cause significant patient discomfort and serious associated problems, ranging from airway obstruction to gastro intestinal tract perforation, resulting in a significant rate of deaths.

2. CASE PRESENTATION

A 40 years old man was admitted to the emergency room with sudden onset of exertional dyspnea, intermittent coughing and chest pain. Four hours before he had accidentally swallowed

his resin dentures during a meal. on admission finding a conscious patient, hemodynamically and respiratory stable: blood pressure 12/09, heart rate : 87bpm and respiratory rate: 18cpm the rest of the exam is unremarkable. The chest X- ray (Fig. 1) and plain abdominal radiography (Fig. 2), identified a radiopaque foreign body in the stomach as well as previously treat right apical tuberculosis. Several unsuccessful attempts at endoscopic extraction were made with inability to draw the denture across the lower esophageal sphincter.

The patient had an antral gastrotomy of 1.5 cm with extraction of the denture and suture of the gastrotomy to the v3/0; the postoperative follow-up was simple: transit resumed at d2, nasogastric probe removed at d3, feeding authorized at d4 and declared discharged at d5 postoperative.

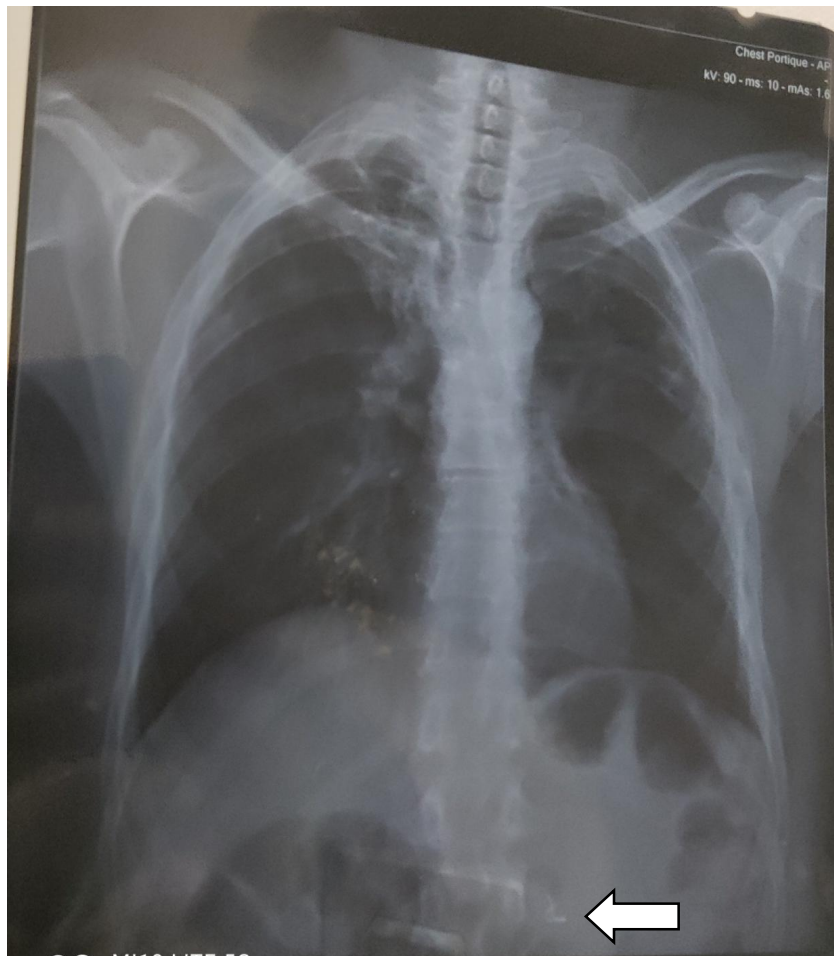


Fig. 1. Chest X-ray: visualization of radiopaque foreign body

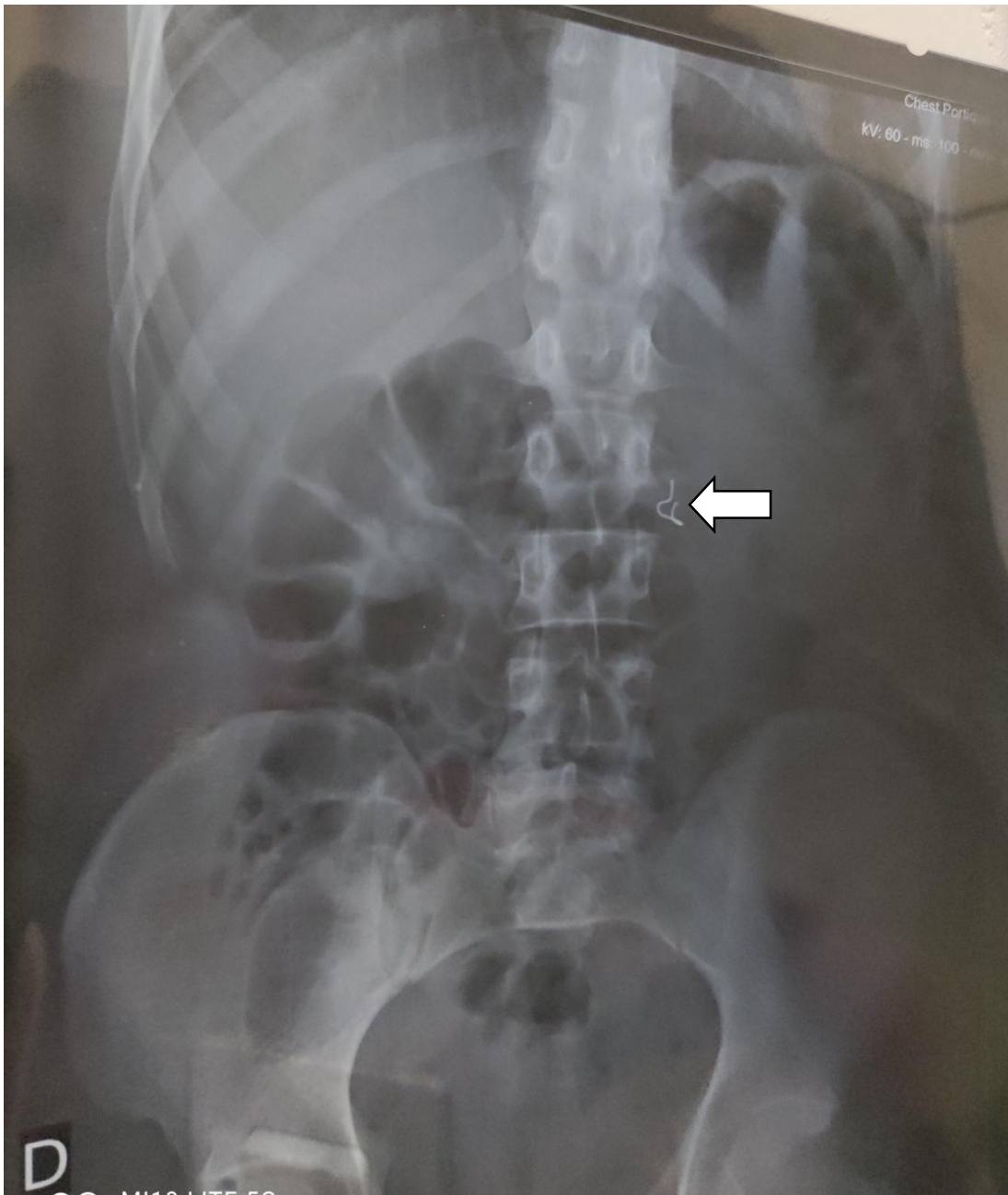


Fig. 2. Plain abdominal radiography: foreign body.

3. DISCUSSION

Accidental ingestion of foreign bodies occurs mainly in children with a male predominance [2].

In children, the habit of putting objects into the mouth frequently contributes to various FB ingestions. Ingestion of small coins is frequent and usually has no deleterious consequence;

conversely, button battery ingestion may be especially dangerous because oesophagus perforation can occur within a few hours. In adults, foreign body ingestions are often rare but difficult to diagnose and constitute a diagnostic and therapeutic emergency [3]. Edentulous patients, who cannot chew, and denture wearers, whose tactile sensitivity of the gums and palate is reduced, are prone to food impactions [4].

The diagnosis of FB ingestion is often made during interrogation with the patient's family but also at the stage of life-threatening complications [5,6].

There is a correlation between the time between ingestion and admission and the severity of local and general complications caused by the ingested objects. In 60% of the cases, patients consult within the first 24 hours [7]. They are often asymptomatic or present minor signs such as epigastralgia, vomiting or dysphagia.

The diagnosis is clarified by radiological investigations. Soft tissue X-ray is the technique of choice to demonstrate sufficiently radiopaque foreign bodies in the hypopharynx, esophagus and stomach. CT is the main examination to demonstrate extravisceral air; and cervical, mediastinal or abdominal abscesses secondary to perforations [8,9].

Other methods are used to detect foreign bodies such as ultrasonography, angiography in search of vascular lesions [10,11] as well as hand-held metal detectors have been used as an adjunctive technique to evaluate metallic foreign body ingestions, especially coins in children. This technique would avoid repeat radiological examinations in the asymptomatic patient, in case of gastric or lower digestive localization [12,13].

The therapeutic strategy consists of extracting the FB from the digestive tract or monitoring its progression. The choice of treatment depends on the size of the FB, its contours, the material constituting it, the anatomical situation of the blockage and the condition of the patient on admission.

Mechanical extraction can be attempted with a laryngoscope, a flexible or rigid gastroscope or a balloon tube (Foley or Fogarty type).

In case of esophageal impaction, endoscopy should be performed urgently, especially if the patient is symptomatic [14,15,16,17].

Flexible endoscopy is the technique of choice in food impaction. If endoscopy fails or if the patient becomes symptomatic, or the FB stops its progression, the approach is surgical.

4.CONCLUSION

The ingestion of FB is frequent, especially in prisons, psychiatric institutions but also in veiled women.

The management of these patients must be methodical; history, physical examination and radiographs must be used to obtain accurate diagnosis and to detect complications. The need for instrumental extraction and risks must be carefully evaluated and the most suitable technique, most often endoscopy, must be chosen.

Surgery is indicated if digestive perforation, failure of medical supervision, or failure of endoscopy.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Letard JC. Ingestion de corps étrangers. *Iléus*. 2003 ;20:13–5.
2. Caidi M, Kabiri H, Lazrek I, El Maslout A, Ben Osman A. Chirurgie des corps étrangers intrabronchiques. *Ann Chir*. 2002;127(6): 456-60. PubMed | Google Scholar
3. Herrak L, Ouadnoui Y, Msougar Y, Maida M, Fennane H, Oouchen H et al. Une extraction dentaire chèrement payée. *Rev Pneumol Clin*. 2011; 67(5): 330- 33. PubMed | Google Scholar
4. Parkhouse RC. Medical complications of orthodontics. *Br. J. Orthod*. 1991;18:51-57.
5. Kim KH, Woo EY, Rosato EF, Kochman ML. Pancreatic foreign body: ingested toothpick as a cause of pancreatitis and hemorrhage. *Gastrointest Endosc*. 2004;59(1):147-9.
6. Hunt I, Hartley S, Alwahaab Y, Birkill GJ. Aortoesophageal perforation following ingestion of razorblades with massive haemothorax. *Eur J Cardiothorac Surg*. 2007;31:946–8
7. Lefriekh R, Aisse L, Louzi A, et al. Ingestion de corps étrangers. *Rev Maroc Med Sante*.2003;20(02):52–7.
8. Jungling G, Wiessner V, Gebhardt C, Zeitler E, Wunsch PH. Enterokolische Fistel infolge Fremdkörperinkorporation. *Dtsch. Med. Wochenschr*. 1994;119:63-66

9. Sethi DS, Stanley RE. Migrating foreign bodies in the upper digestive tract. *Ann. Acad. Med. Singapore.* 1992;21:390-393.
10. Scher RL, Tegtmeyer CJ, Mc Lean WC. Vascular injury following foreign body perforation of the esophagus: review of the literature and report of a case. *Ann. Otol. RhinoLaryngoL.* 1990;99:698-702.
11. Wu MH, LAI WW. Aorta-esophageal fistula induced by foreign bodies. *Ann. Thorac. Surg.* 1992;54:155-156.
12. Ros SP, CETTA F. Metal detectors: An alternative approach to the evaluation of coin ingestions in children? *Pediatr. Emerg. Care.* 1992;8:134-136.
13. Biehler JL, Tuggle G, Stacy M. Use of the transmitter-receiver metal detector in the evaluation of pediatric coin ingestions. *Pediatr. Emerg. Care,* 1993;9:208-210.
14. Giordano A, ADAMS G., BOLES L. et coll. -- Current management of esophageal foreign bodies. *Arch. Otoloryngol,* 1981;107:249-251.
15. Crysdale WS, Sendi KS, Yoo J. Esophageal foreign bodies in children: 15-year review of 484 cases. *Ann. OtoLaryngol,* 1991;100:320-324.
16. Holinger LD. Management of sharp and penetrating foreign bodies of the upper aerodigestive tract. *Ann. Otol. RhinoLaryngoL.* 1990;99:684-688
17. Rivera EA, Mavis MD. Effects of neutralizing agents on esophageal burns caused by disc batteries. *Ann. OtoL Rhinol. LaryngoL.* 1987;96:362-366.

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