ILEAL PERFORATION DUE TO INGESTED METALLIC COINS

Dr. Anubhav Arya¹, Dr. Neel Kamal Gola², Dr. Amit Kumar²

¹Assistant Professor Department of Surgery, Rama Medical College Hospital and Research Centre, Hapur.

²Associate Professor, Department of Surgery, Rama Medical College Hospital and Research Center, Hapur

Article Info: Received 03 July 2019; Accepted 04 August. 2019

DOI: <https://doi.org/10.32553/ijmbs.v3i8.453>

Address for Correspondence: Dr. Anubhav Arya

Conflict of interest: No conflict of interest.

Abstract

A 28-year-old man was admitted in Emergency Department with features of the peritonitis. This patient underwent emergent exploratory laparotomy with a preoperative diagnosis of peptic ulcer perforation based on his history. Two coins were removed from perforated ileum. The patient was discharged on 5th POD with an ileostomy following an uneventful hospital stay. Interesting facts reported with this case was absence of any specific history of coins ingestion and no detection of these coins in preoperative abdominal skiagram which was further vitiated by presence of fever and medical history.

INTRODUCTION

Unintentional foreign body ingestion commonly occurs in paediatric age group and at advanced ages in persons suffering with psychiatric disorders or mental retardation. Intentional foreign body ingestion is seen particularly in prisoners^{1,2,3}. Commonly ingested objects include coins, needles, pins, jewelry items, toy parts, teaspoons, nails, fish and chicken bones, batteries, and dentures^{4,5,6}. Most of them pass through the anus uneventfully but few may cause serious complications, requiring surgical interventions⁷.

CASE REPORT

This 28-year old male hawker presented to our ER with a two days history of sudden onset severe sharp pain arising from upper abdomen which spread to entire abdomen in association with nausea. At presentation his pulse rate was 130/minute, blood pressure was 100/60 mmHg, respiratory rate was 22/minute, SpO₂ was 99% on room air and temperature was 98.4⁰ F. He was irritable but lying quietly over the couch. He had history of chronic painkiller intake and IV drug abuse. On physical examination, the abdomen was tense, having generalized tenderness, guarding and rebound tenderness. The patient was anaemic with white blood cell count of 10200/mm³. Other laboratory blood and urine tests were normal. Abdominal radiograph showed free intraperitoneal air under the

diaphragm with multiple air fluid levels. The patient underwent emergent exploratory laparotomy with the presumptive diagnosis of peptic ulcer perforation. Surprisingly, on exploration, ileal perforation was found two feet proximal to Ileo caecal Junction, where two metallic coins were impacted and visible through the perforated ileal wall having discolored surface suggestive of corrosion of coins. Proximal ileal and jejunal loops were distended and loaded with the faecal matter. This perforated ileal site was taken out as a temporary loop ileostomy in view of anaemia, oedematous ileal wall and loaded bowel loops. On enquiring about the ingestion of these coins after surgery, patient's wife narrated the incidence of accidental swallowing of coins some two weeks earlier. Patient was discharged on 5th Post-Operative Day (POD) after complete psychiatric evaluation with an uneventful hospital stay.

Figure 1: Erect abdominal radiograph showing free intraperitoneal gas under diaphragm and multiple air fluids level

Figure 2: Two metallic coins impacted at the perforated antimesenteric border of ileum

DISCUSSION

Accidental ingestion of foreign body is a common condition, however, small bowel perforation due to ingestion of foreign bodies are rarely seen. Ingested foreign bodies mostly pass through the gastrointestinal tract uneventfully within a week without causing any complications⁸. Nevertheless, some of them may lead to serious complications, which require surgical intervention⁹. Intestinal perforation by a foreign body is uncommon; occurring in less than 1% of patients^{3,10}. Coins having zinc or ferritic content may cause problems. Zinc is highly reactive with gastric acid, and causes local corrosion and potentially systemic toxicity. This case report presents a child with a chronically ingested post-1982 penny that was lodged in the esophagus for at least 4 months before a radiograph identified its presence¹¹. It normally affects the ileocaecal and recto sigmoid regions which show anatomical angulation^{12,13}. Undetected and inadvertent ingestion of coin has been implicated in causing intestinal obstruction¹⁴. Admittance to the ER with signs of acute abdominal pain is a common scenario and may mimic acute appendicitis, pancreatitis, diverticulitis or peptic ulcer perforation^{14,15}. CT scan is the method of choice for diagnosing swallowed foreign bodies and their complications like perforation, obstruction, intussusceptions, fistula or abdominal abscess formation^{7,13}. The presence of free gas under the diaphragm is uncommon with foreign bodies perforation of the GI tract because impaction and progressive erosion by the foreign bodies through the intestinal wall, allows it to be covered by fibrin, omentum, or adjacent loops of bowel¹⁷. The presence

of free air was demonstrated in <20% of patients in one study¹⁸. Diagnostic laparoscopy may be considered in dubious preoperative diagnosis^{18,19}. Imperforated foreign bodies can be dealt with endoscopy in upper GI tract. Surgical intervention in the form of laparoscopy²⁰ or laparotomy is required once complication develops. Resection-anastomosis, temporary diversions, primary repair or drainage are attempted according to the scenario²¹. In some cases, the ingested objects unexpectedly may lead to complications after a long period of time⁴. After the surgical treatment, we concluded that these patients should also be evaluated for the mental problems that may have led to repeated foreign body ingestions.

REFERENCES

1. T. R. Sai Prasad, Y. Low, C. E. Tan, and A. S. Jacobsen, "Swallowed foreign bodies in children: report of four unusual cases," *Annals of the Academy of Medicine Singapore*.2006;35(1):49–53.
2. S. Nijhawan, S. Kumpawat, P. Ashdhir, N. Behl, A. Jha, and R. R. Rai, "Impacted nail in duodenum: endoscopic removal with a novel magnetic foreign body retriever," *Endoscopy*.2009;41: article E62.
3. Litovitz T, Schmitz BF. Ingestion of cylindrical and button batteries: an analysis of 2382 cases.1992; 89 (4 Pt2):747-757.
4. E. A. Cho, D. H. Lee, H. J. Hong et al., "An unusual case of duodenal perforation caused by a lollipop stick: a case report," *Clinical Endoscopy*.2014;47(2):188–191.
5. I. Başpınar, S. Şahin, and G. Erdoğan, "Acute mechanical intestinal obstruction after ingestion of foreign bodies: a case report," *Ulusal Travma ve Acil Cerrahi Dergisi*.2010;16(1):92–94.
6. Tim B. Hunter, MD . Mihra S. Taljanovic, MD. Foreign bodies. *Radiographics* 2003; 23:731-757.
7. Furukawa A, Sakoda M, Yamasaki M, Kono N, Tanaka T, Nitta N, et al. Gastrointestinal tract perforation: CT diagnosis of presence, site, and cause. *Abdom Imaging*. 2005;30(5):524-534.
8. McCanse DE, Kurchin A, Hinshaw JR. Gastrointestinal foreign bodies. *Am J Surg*. 1981; 142:335–337.
9. .U. Mairose, "Intentional ingestion," *Deutsches Arzteblatt International*.2013;110(17): article 297.
10. Hsu SD, Chan DC, Liu YC. Small-bowel perforation caused by fish bone. *World J Gastroenterol And*. 2005;11(12):1884-5.
11. Bothwell DN, Mair EA, Cable BB. Chronic ingestion of a zinc-based penny. *Pediatrics*. 2003 Mar 1;111(3):689-91.
12. Pinero MA, Fernández HJA, Carrasco PM, Riquelme J, Parrila PP. Intestinal perforation by foreign bodies. *Eur J Surg*. 2000;166:307–309.

13. Coulier B., Tancredi M.H., Ramboux A. Spiral CT and multidetector-row CT diagnosis of perforation of the small intestine caused by ingested foreign bodies. *Eur Radiol.* 2004;14: 1918–1925.
14. Tupesis JP, Kaminski A, Patel H, Howes D. A penny for your thoughts: small bowel obstruction secondary to coin ingestion. *The Journal of emergency medicine.* 2004 Oct 1;27(3):249-52.
15. Mutlu A, Uysal E, Ulusoy L, Duran C, Selamoğlu D. A fish bone causing ileal perforation in the terminal ileum. *Ulus Travma Acil Cerrahi Derg.* 2012;18:89–91.
16. Afridi SP, Malik F, Ur-Rahman S, Shamim S, SamoKA. Spectrum of perforation peritonitis in Pakistan:300 cases Eastern experience. *World J EmergSurg.* 2008;3:31.
17. Yagmur Y, Ozturk H, Ozturk H. Distal ileal perforation secondary to ingested foreign bodies. *J Coll Physicians Surg Pak.* 2009;19:452–453.
18. Goh BK, Chow PK, Quah HM, Ong HS, Eu KW, Ooi LL, *et al.* Perforation of the gastrointestinal tract secondary to ingestion offoreign bodies. *World J Surg* 2006; 30:372-377.
19. Law WL, Lo CY. Fishbone perforation of the small bowel: laparoscopic diagnosis and laparoscopically assisted management. *Surg Laparosc Endosc Percutan Tech.* 2003;13:392–393.
20. Saad SKA, Ismail TM, Khuder HA. Small Bowel Perforation Secondary to Fish Bone Ingestion. *Bahrain Medical Bulletin.* 2010 Dec;32(4).
21. Hansen AJ, Tessier DJ, Anderson ML, SchlinkertRT. Laparoscopic repair of colonoscopic perforations: indications and guidelines. *J GastrointestSurg.* 2007; 11(5):655-659.
22. Brian K.P., Goh B.K., Chow P.K. Perforation of the gastrointestinal tract secondary to ingestion of foreign bodies. *World J Surg.* 2006;30:372–377.