

Case Report

7" long knife for 7 years in the duodenum: a rare case report and review of literature

Sanjay K. Bhasin*, S. L. Kachroo, Vijay Kumar, Raj Kumar, Viajaynt Singh Chandail

Postgraduate Department of Surgery, Government Medical College, Jammu-180001, J & K, India

Received: 11 April 2014

Accepted: 27 April 2014

***Correspondence:**

Dr. Sanjay K. Bhasin,

E-mail: sanjaykbhasin@yahoo.co.in

© 2014 Bhasin SK et al. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Foreign body ingestion is a common occurrence both in sane and insane population. Quite a good number of interesting and unusual cases of foreign body ingestion has been reported in the surgical literature from time to time. Ingested foreign bodies varying widely in number, size and character, may travel through a distensible tube of comparatively small diameter causing mechanical insult to the intestinal wall without producing symptoms or permanent tissue damage. Accidental ingestion of the foreign body is by far the most common. Deliberate ingestion may result from an act of insanity, a dare, a habit or medicinal therapy. Retention of elongated or pointed objects in the duodenum is a frequent problem. Long, sharp, objects may perforate the duodenum and have been known to migrate widely in the abdomen. Early removal of such objects has been advised. This case forms rarity due to the fact that the 7 inches knife remained in the Duodenum for 07 long years without causing major catastrophe. From Medline as well as Medical library search we failed to find such a case report till date where the metallic foreign body has remained in the GIT for such a long time.

Keywords: Foreign body, Knife, Duodenum, Seven inches, Seven years

INTRODUCTION

Foreign body ingestion is a common occurrence both in sane and insane population. Quite a good number of interesting and unusual cases of foreign body ingestion has been reported in the surgical literature from time to time. Ingested foreign bodies varying widely in number, size and character, may travel through a distensible tube of comparatively small diameter causing mechanical insult to the intestinal wall without producing symptoms or permanent tissue damage.¹⁻³ Accidental ingestion of the foreign body is by far the most common. Deliberate ingestion may result from an act of insanity, a dare, a habit or medicinal therapy.⁴⁻⁶

Foreign body ingestion is a frequent GIT emergency. However, long spoon swallowing is a rare event.^{7,8}

Perforation, obstruction, abscess formation, hemorrhage, fistula and mucosal ulcerations are the complications noted.^{9,10} Foreign bodies' thicker than 2 cm and longer than 5cms are unlikely to pass the pylorus spontaneously. Others usually over 10 cm long will fail to traverse the duodenal sweep.^{11,12} Retention of elongated or pointed objects in the duodenum is a frequent problem. Long, sharp, objects may perforate the duodenum and have been known to migrate widely in the abdomen. Early removal of such objects has been advised.^{13,14}

This case forms rarity due to the fact that the 7 inches knife remained in the duodenum for 07 long years without causing major catastrophe. From Medline as well as medical library search we failed to find such a case report till date where the metallic foreign body has remained in the GIT for such a long time.

CASE REPORT

A 32 years old married female, labourer by occupation presented to the hospital with history of recurrent pain abdomen for last 07 years, recurrent vomiting 07 years and decreased appetite for last 01 year. Seven years back while working in a cement factory, she under the influence of black magic (?) developed a psychic illness and ingested a knife. She complained of pain in the throat and abdomen after few days of ingestion of the knife. She told her husband that she has ingested the knife. She used to take medication from local practitioners for last 07 years for her pain abdomen & recurrent vomiting. She also gives history of decreased appetite for last 01 year. Two days before reporting to the hospital she developed severe agonizing pain upper abdomen that was continuous in nature and relieved only transitory by the medication. She had 5-6 episodes of forceful vomiting in last two days. She was admitted in some peripheral community hospital from where she was referred to GMC, Jammu. No history of hematemesis, malena, constipation, fever, diarrhea, vaginal discharge, urinary complains, weight loss, jaundice. GPE was unremarkable except mild pallor. On abdominal examination mild tenderness could be elicited in right lumbar, epigastrium and right paraumbilical region.

X-ray abdomen revealed a long radio-opaque metallic object mimicking knife placed horizontally at the level of L2-3 spine. CECT abdomen revealed it to be in second part of duodenum extending up to duodenojejunal junction. Upper G.I. endoscopy revealed the knife handle at the lower end of C-loop of duodenum. The retrieval could not be made possible. The relevant general anesthesia investigations were within normal limits except hemoglobin being 9.5 gm/dl. After proper work up exploratory laparotomy with midline incision was done.



Figure 1: Plain X-ray abdomen showing knife.

Operative findings

There were omental adhesions all over the abdominal cavity extending up to pelvis. Duodenum, liver and

hepatic flexure of the colon were densely adhered with each other, forming a sort of cocoon. Hub of the knife could be palpated at the cocooned site in the region of hepatic flexure. The tip of the knife could be palpated about 2 cm short of duodeno-jejunal junction after opening the lesser sac. Ascending colon and hepatic flexure of the colon were mobilized. Adhenolysis was done separating right lobe of liver from hepatic flexure as well as duodenum. The C-loop of duodenum could be mobilized with difficulty & partially only. During adhenolysis there was a rent in the duodenum just at the hub of the knife. The duodenotomy was extended; the duodenums flushed with saline and with the help of bogies adhesions between mucosa of duodenum and the blade of the knife were broken. With the help of Desjardin forceps, the knife was slowly retrieved from the duodenum. The distal & proximal segments of duodenum were flushed with normal saline. Duodenotomy closed by three interrupted sutures of vicryl 2-0, the omentum was interposed as on lay technique. Haemostasis was secured and peritoneal lavage done. Drain kept at the site of duodenotomy closure as well as in pelvis. Incision closed as mass layer using 1 No vicryl as continues sutures. Skin approximated as interrupted staplers sutures.



Figure 2: Hub of knife being retrieved from duodenum.



Figure 3: Knife getting retrieved from duodenum.



Figure 4: Knife after retrieval from the duodenum.

DISCUSSION

The first available evidence of retrieval of foreign body from GIT dates back to 1502 AD the first known gastrostomy was performed by Florin Mathias of Brandenburg for removal of 9 inches long knife ingested 07 weeks and 02 days before. Schwaben in 1635 at Konigsberg removed 10 inches long knife from the stomach. Houston mentioned a maniac who swallowed a rusty spoon 11 inches long. Fatal perforation was found in the last acute turn of the duodenum.¹⁵⁻¹⁸

The perverse individuals are of dubious use to society and moreover, in some cases develop a morbid appetite for FB. For some strange reasons they seem to stand abdominal section well and develop peritoneal antibodies that serve them to such good purpose that either septic complications are avoided or their relative dangers are overcome.¹⁹

Sharp or pointed objects are reported to perforate GIT wall in 15-35% of cases.^{20,21} FB's thicker than 2 cm and longer than 5 cm are unlikely to pass the pylorus spontaneously. Others usually over 10 cm long will fail to traverse the duodenal sweep.^{12,22} Objects longer than 5 cm frequently fail negotiate the C-curve and become impacted.²³

In previous studies long items such as forks or spoons longer than 6-10 cm have been unable to pass through the duodenal sweep.^{24,25} Sahu SK et al.²⁶ reported that GI FB represents a significant problem causing a great degree of morbidity and mortality to the patients. CT is a highly sensitive investigation to localize the site of a FB in the GIT and to detect any complication associated. Expectant treatment, endoscopic, open and laparoscopic surgery are the different options. Retention of elongated or pointed objects in the duodenum is a frequent problem. Long, sharp, objects may perforate the duodenum and have been known to migrate widely in the abdomen. Early removal of such objects has been advised.^{27,28}

Claudio Golfier²⁹ recommended endoscopic removal of the GIT FB as soon as possible to prevent development of complications. He further added that at times they need to be removed operatively. This case report describes the lap removal of a ballpoint pen that perforated the duodenum.

Laparotomy is performed for diagnosis and treatment in case of impacted FB's in the gut. However, with increasing expertise, laparoscopy can be equally effective with all of the other advantages of minimal access approach. However, laparoscopy is now increasingly being employed for removal of ingested FB impacted in the GIT.^{30,31}

After investigating the patient with X-ray abdomen and CECT abdomen, we subjected patient to upper GI endoscopy to localize and remove the FB endoscopically but we failed to retrieve it due to adhesion of FB with duodenal mucosa and sharpness of the FB. We resorted to laparotomy and successfully retrieved it, post-operative period was uneventful. Patient was discharged on 8th post-operative day after removing the stitches and giving necessary psychotherapy. The uniqueness of the case is due to the fact that the FB remained in the GIT (Duodenum) for 07 long years without a catastrophe. And probable reason of retention of knife in the duodenum is due to reactive fibrous exudates leading to mucosal adhesions that could well be seen intra-operatively while retrieving the knife from the duodenum.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Vizcarrouds FJ, Brady PG, Nord HJ. Foreign bodies of the upper gastrointestinal tract. *Gastrointest Endosc.* 1983;29:208-10.
2. Weiland ST, Schurr MJ. Conservative management of ingested foreign bodies. *J Gastrointest Surg.* 2002;6:496-500.
3. Islam SR, Islam EA, Hodges D, Nugent K, Parupudis S. Endoscopic removal of multiple duodenum foreign bodies: an unusual occurrence. *World J Gastrointest Endosc.* 2010;2(5):186-9.
4. Ross, George G. FB's in the small intestine. *Ann Surg.* 1916;lxiii:247-8.
5. Stough DF. Knife swallowing: a case Report. *J Oklahoma Med Assn.* 1918;xi:331.
6. Gitlin DF, Caplan JP, Roger MP et al. FB ingestion in pts with personality disorders. *Psychosomatic.* 2007 Mar-Apr;48(2):162-6.
7. Lin CK, Lee KS, Kuo MC, Lin TJ, Tsai MS. Removal of a mis-swallowed long spoon via gastrostomy: a case report. *Kaohsiung J Med Sci.* 2002;18:208-10.

8. Beldholin BR, Lee AV. Simple endoscopic technique for retrieving a long FB from the stomach. *ANZ J Surg.* 2007;77:560-1.
9. Rygl M, Pycha K. Perforation of the stomach by a FB in a girl with anorexia nervosa: a case report. *Rozhl Chir.* 2002;81:628-30.
10. Lam PY, Marks MK, Fink AM, Oliver MR, Woodward A. Delayed presentation of an ingested FB causing gastric perforation. *J Pediatric Child Health.* 2001;37:303-4.
11. Clarkson WK. GIT FB. When to remove them: when to watch & wait. *Postgrad Med.* 1992;92:46-59.
12. Ahmed MAI, Hashemy, Mohammed I, Saleem, Adel M, Khadrah. An extraordinary swallowed FB: a dessert spoon in the stomach. *Kuwait Med J.* 2002;34(1):53-5.
13. Seo JK. Endoscopic management of GIT Foreign body in children. *Indian J Pediatr Surg.* 1996;66(Suppl I):575-80.
14. Eisen GM, Baron TH, Domnitz JA, Fargel DO, Goldstein JL et al. Guidelines for the management of ingested FB. *Gastrointest Endosc.* 2002;55:802-6.
15. Li ZS, Sun ZX, Zou Dw, Yu GM, Wu RP, Liao Z. Endoscopic management of foreign bodies in the upper gastrointestinal tract: experience with 1088 cases in China. *Gastrointest Endosc.* 2006;64:485-92.
16. Palta R, Sahota A, Bemarki A, Salama P, Simpson N, Laine L. Foreign body ingestions: characteristic and outcome in lower socio-economic population with predominantly intentional ingestion. *Gastrointest Endosc.* 2009;69(3 Pt 1):426-33.
17. Christian M, Cress, Stephanie M, Moleski, Ankitkumar K, Patel, Jonathan M, Fenkel, Anthony Infantolino. The man who swallowed a table knife: a case report. *Dig Dis Sci.* 2010;55:3005-6.
18. Louis Carp. FB in the Intestine by. *Ann Surg.* 1927 Apr;85(4):575-91.
19. G. O. Chambers. Foreign body in the alimentary Tract. *Br Med J.* 1942 Sept;2(4264):362-5.
20. Webb WA. Management of FB's of the upper GIT. *Gastroenterol.* 1998;94:204-16.
21. Rosch W, Classen M. Fibro endoscopic foreign body removal from the upper GIT. *Endosc.* 1972;4:193.
22. Clarkson WK. GIT FB: when to remove them: When to watch & wait. *Postgrad Med.* 1992;92:46-59.
23. Erbes J, Babbitt DP. Foreign bodies in the alimentary tract of infants and children. *Appl Ther* 1965;7:1103-9.
24. Blaho KE, Merigion KS, Winberg SL, Park LJ, Cockrell M. Foreign body ingestion in the emergency department: case reports and review of treatment. *J Emerg Med.* 1998;16:21-6.
25. Velitchkov NG, Grigorov GI, Losanoff JE, Kjosser KT. Ingested FB of the GIT: retrospective analysis of 542 cases. *World J Surg.* 1996;20:1001-5.
26. S. K. Sahu, S. K. Burathoki, D. V. Bahl, P. K. Sachan. Foreign bodies erosions of duodenum. *Int J of Surg.* 2007;13(2).
27. Seo JK. Endoscopic management of GIT Foreign body in children. *Indian J Pediatr Surg.* 1996;66(Suppl I):575-80.
28. Eisen GM, Baron TH, Domnitz JA, Fargel DO, Goldstein JL et al. Guidelines for the management of ingested FB. *Gastrointest Endosc.* 2002;55:802-6.
29. Claudio Golfier, Francia Holquid, Akihiko Kobayashi. Duodenal perforation because of swallowed ballpoint pen and its laparoscopic management: report of a case. *J Ped Surg.* 2009 Mar;44(3):634-6.
30. Chin EH, Harzan D, Herron DM, Salky B. Lap retrieval of intra-abdominal foreign bodies'. *Surg Endosc.* 2007;21:1457.
31. Palanivelu C, Rangarajan M, Rajapandian S, Vittal SK, Maheskumar GS. Lap retrieval of 'stubborn' foreign bodies' in the foregut: a case report and literature survey. *Surg Laparosc Endosc Percutan Tech.* 2007;17:528-31.

DOI: 10.5455/2349-2902.isj20140510

Cite this article as: Bhasin SK, Kachroo SL, Kumar V, Kumar R, Chandail VS. 7" long knife for 7 years in the duodenum: a rare case report and review of literature. *Int Surg J* 2014;1:29-32.