



LAPAROSCOPIC REMOVAL OF AN ACCIDENTALLY SWALLOWED SEWING NEEDLE THAT MIGRATED INTO LIVER: AN UNUSUAL CASE REPORT

General Surgery

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ABSTRACT

Gastrointestinal foreign bodies are common in daily surgical practice. Though these foreign bodies do not cause any symptom but they can cause apprehension to the patient. Migration of these ingested foreign bodies to liver, mesentery and abdominal wall are rare. Here we present an unusual case of accidentally swallowed sewing needle that migrated to liver. Migration of these ingested foreign bodies to liver is nevertheless very uncommon. This case report highlights laparoscopic removal of the ingested sewing needle which after ingestion migrated into the left lobe of liver, demonstrating the utility of this technique to easily and usefully resolve dangerous and potentially fatal condition.

KEYWORDS

Foreign body ingestion, Needle, Liver , Laparoscopic surgery.

INTRODUCTION

Gastrointestinal foreign bodies are common in daily surgical practice and they are frequently observed in children, psychiatric patients and prisoners. Usually, these foreign bodies may pass uneventfully. Accidental ingestion of sharp metallic foreign bodies is not uncommon.^{1,2,3,4} Though these foreign bodies do not cause any symptom but they can cause apprehension to the patient. Migration of these ingested foreign bodies after perforating the bowel is generally silent.¹ Although these foreign bodies may migrate to all intraabdominal organs either transperitoneally or by vascular route, the migration of these ingested foreign bodies to liver, mesentery and abdominal wall are rare.^{1,2,3,4} Generally in the absence of clinical signs, patient are merely observed by means of repeated clinical examination and plain abdominal Xray films.

Here we present an unusual case of accidentally swallowed sewing needle that migrated to liver. Migration of these ingested foreign bodies to liver is nevertheless very uncommon. In situations which require surgery such as obstruction, perforation, or bleeding due to ingested foreign bodies, the laparoscopic approach provide many advantages. Endoscopy or laparotomy can also be performed to facilitate the removal. This case report highlights laparoscopic removal of the ingested sewing needle which after ingestion migrated into the left lobe of liver, demonstrating the utility of this technique to easily and usefully resolve dangerous and potentially fatal condition.

CASE DESCRIPTION:

A 22-year-old girl presented to emergency casualty department of Sawai Man Singh medical college and hospital with complaint of pain in right hypochondrium for 3 days. She gave history of accidentally swallowing a sewing needle around 7 days ago. She was admitted for evaluation of swallowed foreign body. On examination her pulse rate was 74 beats/minute and her blood pressure was recorded 124/78 mm Hg in right arm sitting position. On examination of her abdomen there was localised tenderness in the right hypochondrium, there was no guarding or rigidity. Foreign body could not be palpated by deep abdominal palpation. A plain abdominal radiograph in erect position showed a sharp foreign body at the level of 2nd lumbar vertebral body on right side (Figure 1).



Figure 1: Ingested foreign body at level of 2nd lumbar vertebra.

Abdominal computed tomography scan of abdomen showed a linear hyperdense lesion of metallic density suggestive of the swallowed foreign body near the inferior surface of the liver (Figure 2a and 2b).



Figure 2(A) AND 2(B) shows linear hyperdense metallic foreign body in liver.

Laparoscopic removal of foreign body was planned. Patient was taken to the operation theatre and was positioned in reverse Trendelenburg position. General anaesthesia was given and abdomen was entered using Veress needle, after creation of pneumoperitoneum a 10 mm trocar was inserted infraumbilically. Laparoscopic telescope was inserted through the same port and a general inspection of all the intrabdominal cavity and organs was done. There was no peritoneal inflammation or intestinal content within the peritoneal cavity. There were pus flakes and abscess was present above the anterior surface of left lobe of liver. A 5 mm trocar was inserted under vision at tip of 9th costal cartilage in right mid clavicular line and another 10 mm trocar was inserted through epigastrium and laparoscopic graspers were introduced through these ports. Abscess cavity was probed and a shining sharp foreign body was identified which was later recognized as sewing needle (Figure 3). Foreign body was retrieved with the help of graspers through epigastric port (Figure 4).

Patient had an uneventful post operative recovery, she started tolerating oral feeds from the 2nd post operative day and was discharged on 3rd post operative day. She was kept on regular routine follow up.

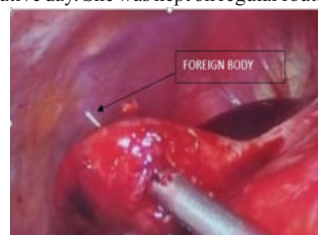


Figure 3: Sewing needle inside the abscess cavity in the left lobe of liver

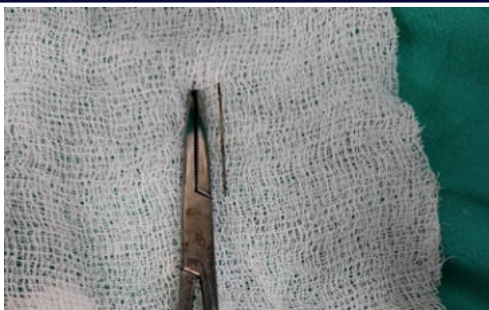


Figure 4: Retrieved foreign body (sewing needle)

DISCUSSION:

Foreign body ingestion is a common occurrence.^{1,2,3,4} Although ingestion may be accidental as was in case of our patient, associated contributory factors like alcohol influence, illicit concealment, psychiatric disorder, bulimia, structural abnormality of dentition and deglutition, altered level of consciousness and seizure disorder also play a significant role behind ingestion of foreign body.

Ingestion of foreign bodies most frequently seen during infancy and early childhood particularly between 6 months and 3 years of age. Prison inmates may ingest foreign body mainly in order to obtain permission from prison.^{5,6} A variety of object may be swallowed but coins, pins, bones and razor blades are the most common ones. Majority of patients ingesting foreign bodies have no symptoms but when presenting clinically the most common presentation is haemorrhage, bowel obstruction or perforation peritonitis.⁷ Single or multiple object may be ingested, most of the ingested foreign bodies are excreted and only 1% cause perforation.^{1,2,3,4} But this percentage of perforation is much higher when ingested foreign body is sharp at one or both ends. The site of perforation is either at angles or narrowing of gastrointestinal tract e.g. at the cricopharynx, lower oesophageal sphincter, pylorus,^{2nd} part of duodenum, ligament of Treitz, ileocecal valve, appendix or rectosigmoid junction.^{1,2,3,4} Septic complications like peritonitis or intrabdominal abscess may occur following perforation.

In some cases, patient may be asymptomatic though the foreign body is a sharp metallic object, the reason behind this could be attributed to the small size of resulting perforation and low bacterial load in pins and needles. In our case too the patient had mild symptoms and no perforation was evident during laparoscopic examination of the intrabdominal organs.

Once the foreign body comes out of gastrointestinal tract it can move along unpredictable route. Gravity seems to play a minor role in an object travelling upwards from rectum into the liver.³

Physical examination is of limited value in locating the exact position of the foreign body and clinician has to rely on investigation including plain and contrast Xray, ultrasound and CT scan.

Study suggests that if computed tomography and contrast enhanced Xray studies are inadequate in revealing the exact location of foreign body i.e. whether the foreign body is intraluminal or extraluminal, a virtual colonoscopy is useful in locating it.⁸ Also intraoperative fluoroscopy is helpful in finding radiopaque intraabdominal foreign bodies the can be localised laparoscopically.

The treatment option for ingested foreign bodies continues to evolve. Recent reports suggest that majority of foreign body pass into the faeces if they have reached the stomach. Endoscopic technique can also facilitate removal without surgical intervention. Henceforth most patient can be managed without surgery. But if the foreign body exits the lumen of gastrointestinal tract the chance of it passing through anus is highly unlikely and removal can only be achieved by surgical means.^{1,2,3,4} Laparoscopy is the best suitable for removal of such foreign body, it has many advantages. Unnecessary laparotomy can be avoided. Laparoscopy has reduced morbidity, significant reduction in post operative pain, minimal incision, early return to work and excellent cosmesis. Single incision laparoscopic surgery has also been employed in such similar situation for retrieval of foreign body.⁹

CONCLUSION:

Accidental ingestion of sharp metallic foreign bodies is not

uncommon. Migration of these ingested foreign bodies to liver, mesentery and abdominal wall are rare. These ingested foreign bodies after perforating the bowel is generally silent. In the absence of clinical signs, patient are merely observed by means of repeated clinical examination and plain abdominal Xray films. But if the foreign body exits the lumen of gastrointestinal tract the chance of it passing through anus is highly unlikely and removal can only be achieved by surgical means. Laparoscopy is the best suitable for removal of such foreign body.

Conflict of Interests:

The authors declare no conflict of interests.

Ethical clearance was obtained from the institutional ethics committee.

REFERENCES:

1. Harjai MM, Gill M, Singh Y, Sharma A. Intra-abdominal needles: an enigma (a report of two cases). *Int Surg* 2000; 85:130-132.
2. Toyonaga T, Shinohara M, Miyatake E, et al. Penetration of the duodenum by an ingested needle with migration to the pancreas: report of a case. *Surg Today* 2001;31:68-71.
3. John KD, Segal I, Saadia R. Perforation of the gastrointestinal tract by a foreign body: a case report. *SAfr J Surg* 1996;34:78-79.
4. Velitckov NG, Grigorov GI, Losanoff JE, Kjossev KT. Ingested foreign bodies of the gastrointestinal tract: retrospective analysis of 542 cases. *World J Surg* 1996;20: 1001-1005.
5. Kurita N, Shimada M, Nakao T, et al. Laparoscopic removal of a foreign body in the pelvic cavity through one port using a flexible cholangioscope. *Dig Surg* 2009; 26: 205-8.
6. Bulakçı M, Agayev A, Yanar F, et al. Final destination of an ingested needle: the liver. *Diagn Interv Radiol* 2011; 17: 64-6.
7. Klein K, Pegoli W Jr, Lee YH. Transluminal migration of ingested foreign body without peritonitis. *J Pediatr Surg* 2012; 47: 788-91.
8. Dachman AH, Yoshida H. Virtual colonoscopy: past, present, and future. *Radiol Clin North Am* 2003;41: 377-393.
9. Valerio Belgrano et al Extraction of a foreign body in the liver using single incision laparoscopic surgery: a new application for minimally invasive surgical procedures .Division of Surgical Oncology, Department of Surgical Sciences and Integrated Diagnostics (DISC) IRCCS San Martino – IST, University of Genoa, Genoa, Italy 2015 *Videosurgery Miniinv* 2015; 10 (1): 129-132