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Visual Diagnosis in Emergency Medicine

DUODENO-SIGMOID FISTULA DUE TO INGESTED METALLIC WIRE

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INTRODUCTION

Foreign body ingestion has received extensive coverage in departments of Surgery, Emergency Medicine, and Pediatrics. Most foreign bodies pass through the gastrointestinal tract uneventfully. However, 10% to 20% of the cases are generally managed by endoscopy, and surgical treatment is needed in less than 1% of cases (1). A total of 1500–1600 deaths occur annually in the United States as a result of foreign body ingestion or insertion (2). The problem is encountered in all age groups; however, it is more common in the pediatric age group, and the peak incidence is between ages 6 months and 6 years (3). Foreign body ingestion is rare in adults and usually occurs accidentally or in those with psychiatric problems, behavioral disorders, emotional disturbance, mental retardation, or impaired judgment caused by alcohol use (4). We present a case of a duodeno-sigmoid fistula due to metallic wire ingestion by a mentally disabled man.

CASE REPORT

A 50-year-old mentally disabled man presented to our Emergency Department with diffuse abdominal pain of several days duration. The pain was mild in character and there was no vomiting or change in defecation. It was not possible to take a proper history from the patient himself and the family. The vital signs were within normal limits. He had poor oral hygiene. Bowel sounds were present without any distention or abdominal tenderness. Rectal examination revealed stool with normal appearance. Leukocyte count was 10,000/mm^3, and the other laboratory findings were non-specific. A plain radiograph of the abdomen revealed multiple opaque wire-like structures, folded and irregular in shape, approximately 15 cm and 12 cm in length, in the upper abdomen (Figure 1). No further imaging studies were performed. Endoscopy revealed grade III esophagitis and folded metallic wires at the second part of the duodenum. Endoscopic removal of the foreign bodies was attempted but was unsuccessful due to deep penetration of the wires into the duodenal mucosa. The procedure could have resulted in further injury. Despite 9 days of conservative management, failure of the foreign bodies to progress through the gastrointestinal tract in serial radiographs made an operation necessary. Surgery revealed the presence of a 15-cm-long wire that had perforated the fourth part of the duodenum, causing a duodeno-sigmoid fistula (Figure 2). Also, there were three 12-cm-long wires lying through the second and fourth portions of the duodenum (Figure 3). There was no peritoneal contamination. After removal of the wires, roux-en-Y jejunal limb anastomosis to the duodenal injury and primary repair of the sigmoid colon

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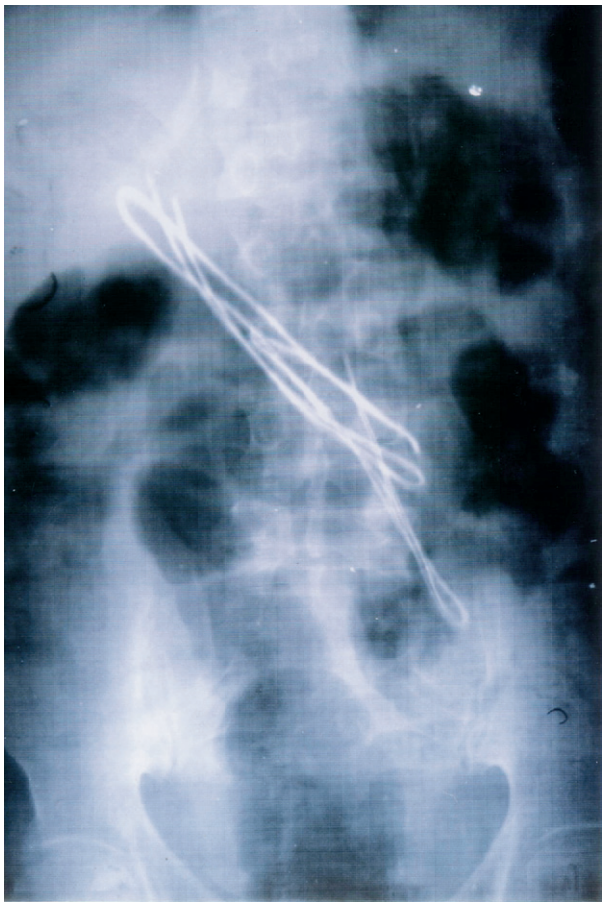

Figure 1. Radiograph of the abdomen showing opaque wire-like structures in the upper abdomen.

were performed. The patient had an uneventful post-operative course and was discharged on post-operative day 12.

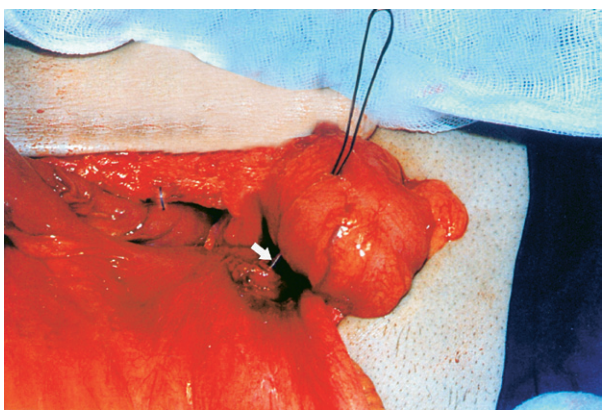

Figure 2. Intraoperative photograph shows duodenosigmoid fistula (arrow).

Figure 3. Macroscopic view of the metallic wires.

DISCUSSION

This is an unusual case of a duodeno-sigmoid fistula caused by ingestion of a foreign body. Intestinal perforation due to ingested foreign body is a rare entity, because the majority of foreign bodies pass spontaneously with stools (5). Surgery should be considered if there is no evidence of passage through the duodenum and in case of endoscopic failure to remove sharp objects (5,6). Thin, sharp foreign bodies carry a high risk for perforation (5,7). A surgical approach may be preferable to conservative management, especially in cases of metallic, sharp foreign bodies, even if the patient appears asymptomatic.

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