

Case Report

A Case of Appendiculo-Ileal Knotting As a Cause of Gangrenous Small Bowel Obstruction in a 50-Yr-Old-Woman, in a Private Hospital

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Abstract

Appendiculo-ileal knotting causing small bowel obstruction is rare. Preoperative diagnosis is usually difficult and needs a high index of suspicion. If it is not diagnosed and managed early it will result in catastrophic complication of gangrenous bowel. Here we present a 50-year-old woman who presented with a complaint of colicky abdominal pain of 24 hours duration. The patient underwent emergency laparotomy and intraoperatively the diagnosis of appendiculo-ileal knotting with gangrenous distal ileum was made with mucocele of the appendix. Resection of the appendix and gangrenous ileum, as well as cecum and ascending colon was made with end-to side ileotransverse anastomosis. The patient had smooth post operative course and discharged home.

Introduction

Acute appendicitis and small bowel obstruction are common causes of acute abdomen [1]. However, Small bowel obstruction caused by an appendix forming a knot around a small bowel is rare [1,2]. Appendicular knot, also called as appendicular band syndrome or appendicular tie syndrome, is an extremely rare surgical entity with only a few cases reported so far [1-3]. It usually presents with intestinal obstruction. The ileum is entrapped by the appendicular knot causing closed-loop obstruction and may strangulate, leading to small bowel gangrene if not intervened early [3-5]. Preoperative diagnosis is usually difficult, and diagnosis is usually made at laparotomy [6]. A high index of clinical suspicion is of utmost importance in identifying and correctly managing this rare condition.

Case Presentation

A-50-year-old woman presented with a complaint of colicky abdominal pain of 24 hours duration. The pain was initially periumbilical later involves the whole abdomen. She had associated frequent vomiting of bilious matter, abdominal distension, and failure to pass feces but not flatus. She has no history of abdominal surgery before. On physical examination she was acutely sick looking lying still; Vital signs were within normal limits (PR-80 beats/min,

BP-110/70 mmHg, RR-24/min); abdominal examination showed slightly distended, tender and board-like abdomen all over, positive signs of fluid collection. With the impression of generalized peritonitis secondary to? perforated peptic ulcer disease she was investigated with CBC: WBC- 14.2×10^3 , N-83.3%, Hct/Hgb- 44.3%/15.4 g/dl, Platelet- 297×10^3 , RBS-141 mg/dl, Blood group-AB negative, Abdominal Ultrasound-moderate intra-abdominal fluid collection, Erect Chest X-ray-normal.

Preoperative diagnosis of generalized peritonitis secondary to? perforated PUD was made and patient was put on intravenous fluid; intravenous ceftriaxone and metronidazole started, intravenous omeprazole 40 mg given, nasogastric tube inserted, transurethral catheter inserted, written informed consent taken and patient taken to operating room. Under general anesthesia abdomen prepared and entered via midline vertical incision and there was about 800 ml hemorrhagic fluid in the peritoneal cavity, distended small bowel loops, gangrenous distal ileum (about 35 cm) around which a swollen appendix has wrapped (Figure 1 and 2).

So, hemorrhagic fluid was sucked out, swollen appendix cut to release the knot; gangrenous ileum, cecum, ascending colon resected (Figure 3) and end-to-side ileotransverse anastomosis done in double layers with vicryl 2/0; appendix sent for biopsy.

Post operatively the patient has smooth course and was discharged on her 7th post operative day. Histopathology of the appendectomy specimen showed simple mucocele.

Discussion

Small bowel obstruction can be caused by a variety of conditions. Acute appendicitis can cause a dynamic small bowel obstruction by causing local inflammation and ileus [2]. But mechanical small bowel obstruction caused by appendiculo-ileal knotting is a rare cause of small bowel obstruction [1-3,6]. Mechanical obstruction with or without strangulation may result from wrapping of appendix around a bowel loop or adhesion of the appendicular tip with small

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Figure 1: Wrapped up appendix around distal ileum, gangrenous distal, viable proximal.



Figure 2: Wrapped swollen appendix around distal ileum.

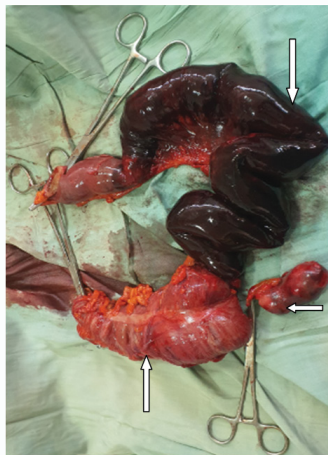


Figure 3: Resected gangrenous ileum (down arrow), appendix (left arrow), cecum and ascending colon (up arrow).

bowel, cecum or posterior peritoneum forming a ring like structure known as an appendices knot [2]. Strangulation may result from a long standing closed loop obstruction, which can be due to the long appendix constricting around a loop of the small bowel like our case, or when it is adhered to the surrounding structures and a part of the bowel herniates through the gap [3].

Making an accurate pre-op diagnosis of intestinal knotting due to appendix can be challenging as patients usually presents with broad symptoms of intestinal obstruction or right iliac fossa pain [4]. Our patient came to our hospital after 24 hours of the onset of the illness with symptoms and signs of generalized peritonitis making the diagnosis of intestinal obstruction difficult, so, consideration of perforated peptic ulcer diseases was made preoperatively.

The management of ileo-appendicular knotting depends on the parts of the bowel involved and the level of strangulation. It ranges from appendectomy to the resection of gangrenous bowel [1]. Intra-operatively, if the bowels are viable, untying the knot may be sufficient. However, if the bowels are ischemic and non-viable or even gangrenous, bowel resection of all non-viable bowels with anastomosis is required [4]. In our case resection of gangrenous ileum and the swollen appendix was made together with the cecum, and ascending colon with end to side ileotransverse anastomosis as the remaining viable ileum from ileocecal valve was only about 2 cm.

Conclusion

Appendiculo-ileal knotting is an uncommon cause of mechanical small bowel obstruction and preoperative diagnosis is usually difficult to make. In patients who came late with peritonitis, like our case, accurate diagnosis might not be necessary as they all need laparotomy. But if patients came early, accurate diagnosis of appendiculo-ileal knotting might be difficult necessitating additional imagings like CT scan. Early patient presentation and intervention will prevent its catastrophic complication of gangrenous bowel.

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