



ENTEROCUTANEOUS FECAL FISTULA FOLLOWING OPEN APPENDECTOMY: A CASE REPORT AND REVIEW OF LITERATURE

General Surgery

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ABSTRACT

Appendiceal fecal fistula is a well-known rare serious but very rare complication of appendectomy, which is one of the most common surgical procedures performed in general surgical practice. Fecal fistula is distressing for both the surgeon as well as the patient. We are reporting here a case of a 50 years old man with a post-appendectomy fecal fistula which was successfully treated conservatively.

KEYWORDS

Appendectomy, Complication, Fecal fistula.

INTRODUCTION

Fistula is a communicating tract between two epithelial surfaces, commonly between a hollow viscus and the skin or between two hollow viscera. Enterocutaneous fecal fistula in post-appendectomy patients is a rare complication associated with significant morbidity which occurs mostly in a perforated or gangrenous appendix with severe peri-appendicitis involving the base of the appendix as well as the adjoining caecal wall.¹ Here, we are reporting a case of post-appendectomy fecal fistula which was successfully managed conservatively.

CASE HISTORY

A 50 years gentleman presented to the emergency department with a history of right lower abdominal pain, fever, and vomiting for 4 days. The patient was managed conservatively at a private clinic, but was not relieved. The pain was peri-umbilical initially which shifted to right iliac fossa (RIF) region. It was sudden in onset, non-radiating, and gradually increasing in intensity over last 3 days. The pain was associated with high grade fever (102°F), not relieved by medication and 4 episodes of non-bilious, non-projectile vomiting. There was no history suggestive of any chronic illness like hypertension, diabetes, tuberculosis, and previous surgeries.

Patient's vitals were deranged with temperature of 102 F, blood pressure of 100/62 mmHg, pulse rate of 110/min, and SpO₂ 98% in room air. On clinical examination, the patient was febrile to touch with obvious fullness seen in right iliac fossa. Tenderness was present over the lump along with guarding and rigidity in RIF. A vague lump was palpable in the right iliac fossa which was approximately 5x4 cm size. The RIF movements with respiration was reduced compared to other regions of abdomen.

Ultrasound whole abdomen was done which showed a heterogeneously hypoechoic collection measuring 9x4.5 cm with few air foci in RIF. Inflammatory changes in the form of increased echogenicity of fat were also noted. Findings suggested possibility of appendicular lump with suspicion of perforation. Urgent X-ray abdomen erect and supine was done which showed no free air under diaphragm and few air fluid levels. Other biochemical investigations were done which showed elevated leucocyte count (16000 cells/cumm) with neutrophilia (84%). Other investigations included LFT, KFT, and PT/INR were within normal limits. Viral markers were negative.

On the basis of clinical findings and investigations, initial resuscitation was given with appropriate fluids and antibiotics and patient was taken up for urgent open appendectomy with a provisional diagnosis of appendicular abscess with lump formation. Abdomen was opened in layers. The adhesions were present between the caecum, appendix,

omentum, distal ileum and at ileocecal junction. After adhesiolysis, around 50 ml foul smelling greyish white pus was aspirated which was present around the caecum and ileocecal junction (Figure 1). The appendix was post-ileal in position. Perforation was present around 1 cm distal to the base of appendix with a fecolith of around 0.5 cm. The appendix was gangrenous beyond the point of perforation with severe peri-appendiceal inflammation (Figure 2). Appendix was dissected and excised after simple ligation with absorbable suture vicryl at base. Thorough lavage was given in RIF and pelvis with warm saline and abdominal drain (32 Fr) was placed in pelvis. Abdomen was closed in layers.

Patient was given intravenous fluids and broad spectrum antibiotics postoperatively. The abdominal drain collected approximately 100 ml of sero-purulent fluid on first postoperative day which gradually reduced to 15-20 ml till postoperative day 5. On post-operative day 7, there was bilio-feculent soiling around the drain site. On post-operative day 9, drain was removed as it was not functioning and around 50 ml of bilio-feculent matter was observed from the drain site although the surgical wound was normal (Figure 3). Patient was afebrile and there was no distal obstruction as he was passing flatus and stools. Patient was managed with broad spectrum antibiotics covering gram negative bacteria and anaerobes and enteral feeding was started. Once/twice daily dressing (according to soakage) was done with daily monitoring of soakage which gradually decreased from 2 gauzes to minimal purulent staining (Figure 4), which was suggestive of healing and closure of fistula. On post-operative day 19, there was no soakage (Figure 5) and the patient was then discharged.

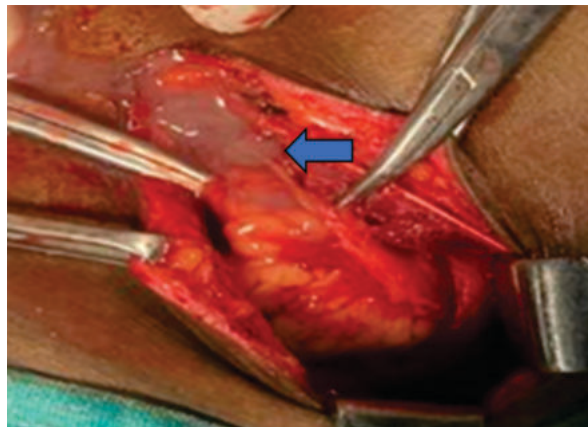


Figure 1: Greyish White Pus Collection.

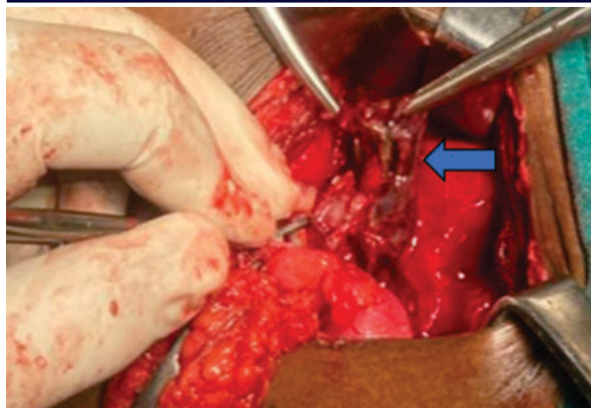


Figure 2- Gangrenous Appendix With Sever Peri-appendiceal Inflammation.

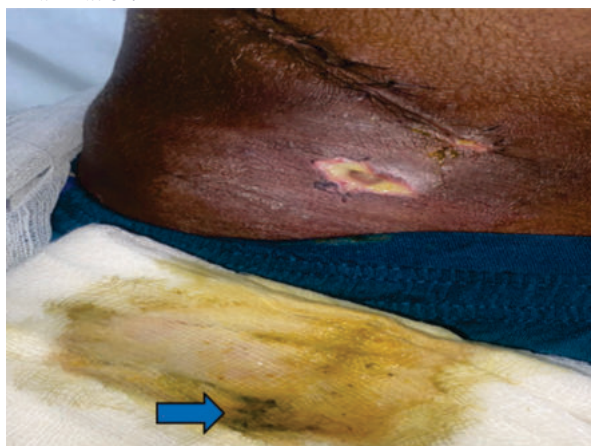


Figure 3: Post Operative Day 9 Showing Feco-bilious Discharge From Drain Site



Figure 4: Post Operative Day 14 Showing Purulent Discharge From Drain Site

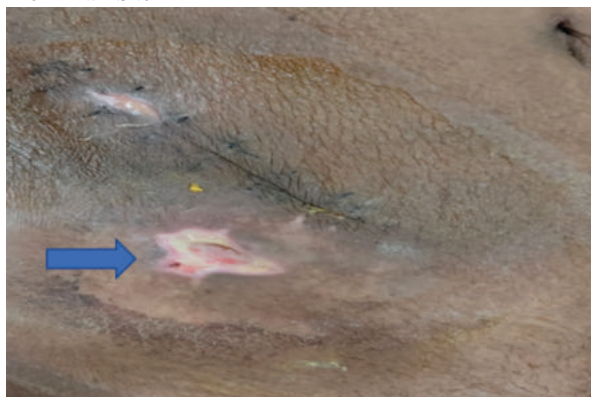


Figure 4: Post Operative Day 19 Showing No Discharge.

DISCUSSION

Post-appendectomy abscess and fecal fistula formation are well known unfortunate serious but rare complications. These occur mostly when there is severe peri-appendicitis involving the base of the appendix as well as the adjoining cecal wall. Leakage from the appendiceal stump is a major etiological factor in such patients.² Other etiological factors include neoplasia of appendix and cecum, infective bowel conditions especially intestinal tuberculosis, actinomycosis and Crohn's disease, distal obstruction and foreign body.

During the surgery, the focus stays on avoiding the serious complication of fistula formation. Slippage of ligature is another probable cause. The relation of post-appendectomy complications (including fecal fistula) to surgical technique, namely use of purse-string suture versus simple ligation of the stump is not well established. Although many recent studies showed no significant difference between the two methods of treatment of the appendix stump,^{3,4} most surgeons continue to carry out purse-string sutures in daily practices of open appendectomy as long as the stump situation permits.⁵

Procedures like cecostomy or even right hemicolectomy has been advised when there is severe inflammation and abscess formation. Use of tube cecostomy seems to be quite reasonable in preventing post-appendectomy abscess and faecal fistula formation when there is severe peri-appendicitis involving the base of the appendix as well as adjoining cecal wall.⁶

Persistence of a faecal fistula depends on above mentioned factors along with the nutritional status of the patient and epithelialization of the fistula tract. About 90 percent persistent fistulas close spontaneously within a month while the remaining 10 percent close spontaneously within the next two months. After three months no fecal fistula reported to close spontaneously.⁷

Nonsurgical options for a fistula include vacuum assisted wound closure (VAC)⁸, adhesive stoma bags or wound manager, fistulostomy with fibrin glue injection.⁹ Other options include the use of monoclonal antibody pharmacotherapy in patients with Crohn's disease¹⁰ and ATT for tuberculosis. Somatostatin analogues, octreotide has also been shown to decrease the fistula output, which can be useful in the presence of high output fistula.¹¹

Surgical management in persistent fecal fistula should be considered after 4-6 weeks of sepsis-free, with adequate nutritional support or when conservative management fails. Fistula tract excision and segmental resection of involved bowel, with end to end anastomosis is recommended.¹²

In our case as it was a controlled low output fistula with no distal obstruction, and systemic signs of peritonitis, enteral nutrition was started and patient was managed conservatively with broad spectrum antibiotics and regular dressing. It was probably due to severe periappendicitis or slippage of ligature.

CONCLUSION

Post-appendectomy fecal fistula formation, though a rare complication, is associated with significant morbidity. Most fecal fistulae respond to conservative treatment in absence of underlying specific pathology and distal obstruction. Surgical management should be reserved for the patients who failed to respond to conservative management. In our case, as it was a low output fistula with no signs of peritonitis, septicemia and distal obstruction, in such cases conservative management can be advocated resulting in spontaneous closure of fecal fistula.

Conflict Of Interest: No conflict of interest linked to this case report.

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