

Fecal Fistula Following Appendectomy as an Unusual Late Complication: A Rare Case Report

Fareed Ahmad Nazari¹, GhulamYahia Baset¹, Saied Karim Zarif¹, Muhammad Anwar Rahimdeen¹, Ahmad Amiri², Farukh Seyar²

¹Department of Emergency Surgery and Trauma, Kabul University of Medical Science, Ali Abad University Hospital, Kabul, Afghanistan; ²Department of Abdominal Surgery, Kabul University of Medical Science, Ali Abad University Hospital, Kabul, Afghanistan

Correspondence: GhulamYahia Baset, Email yahia.baset4321@gmail.com

Abstract: Post-appendectomy fecal fistula is a rare complication, but it is associated with significant morbidity. Etiological factors of post-appendectomy fecal fistula formation include severe peri-appendicitis involving the base of the appendix as well as adjoining caecal wall; neoplasia of the appendix and caecum; infective bowel conditions especially intestinal tuberculosis, actinomycosis and Crohn's disease; distal obstruction and gossypiboma. Diagnosis of post-appendectomy fecal fistula is usually made on CT-scan but Fistulography is also useful in the late stages of the disease. Treatment of post-appendectomy fecal fistula includes non-surgical and surgical management options. We present a 20-year-old male patient who presented to the hospital with a longstanding surgical site infection in the scar of a previous appendectomy incision.

Keywords: fecal fistula, post-appendectomy, gossypiboma, appendicitis

Introduction

Acute appendicitis is the most commonly encountered cause of acute abdomen in general surgery and appendectomy is one of the most frequently performed procedures in clinical practice.¹ Complications of appendectomy include surgical-site infection, postoperative ileus, stump appendicitis, intra-abdominal abscess formation, leaks from the remnant stump, fistula formation, small bowel obstruction, and localized or diffused peritonitis.² In the case of appendix perforation or gangrene with peri-appendicitis, the frequency of septic complications is as high as 30%.³

Post-appendectomy fecal fistula is a rare complication, but it is associated with significant morbidity.⁴ Fecal fistula is distressing for both the surgeon and the patient. In some references, it has been given the first position among the unfortunate sequelae of appendectomies.⁵

Various types of fistulous communication can occur, including appendicovesical, appendicointestinal, appendicouterine, and appendicocutaneous.⁶ In our case, it was an appendicocutaneous fistula caused by a remnant foreign body after appendectomy.

Case Presentation

A 20-year-old male presented to the general surgery department of our hospital with a longstanding surgical site infection in the scar of a previous appendectomy incision. Appendectomy has been performed one year earlier at a provincial hospital. The procedure was said to be performed without any difficulty, and the appendix has not been perforated or gangrenous. The patient had been discharged home 2 days later. The patient had developed a surgical site infection in the second week of surgery which has been managed with removal of a skin suture and regular dressings. The disease had been controlled temporarily but reoccurred frequently.

On physical examination, a scar of Gridiron incision with purulent discharge from a corner of it was seen in the right iliac fossa (Figure 1). After dressing, it was seen that fecal materials were present in the discharge of surgical site infection. Bowel sounds were normally audible, and the abdomen was soft with no tenderness or rigidity.



Figure 1 Scar of previous gridiron incision with fecal fistula presenting as wound infection.

The patient was stable hemodynamically with a blood pressure of 110/70 mmHg. Complete blood count revealed white blood cells of 7500/dL, Hb of 13 mg/dL, and platelet of 245000/dL. Urea, creatinine, and glycemia were within normal limits. Ultrasonography of the abdomen reported a small collection in the right iliac fossa with possible communication with bowel loops. A fistulography with contrast injection from the fistula site revealed communication between skin and caecum (Figure 2). Contrast-enhanced CT scan of the abdomen revealed a colocutaneous fistula and underlying gossypiboma/foreign body (Figure 3).

The patient was planned for a laparotomy. A lower midline laparotomy was performed to prepare for a possible right hemicolectomy. During the operation, it was found that there is a foreign body in the right iliac fossa (Figure 4), a hole in the wall of the caecum, and a small amount of pus collection and adhesions between the caecum and abdominal wall (Figure 5). The collection was suctioned, the foreign body removed, and the fistula was repaired primarily as the patient was young and well-nourished. The abdomen was closed layer by layer after hemostasis and the insertion of a tube drain.

The patient was nil by mouth (NPO) for four days. Bowel sounds were audible on the fourth postoperative day, so a liquid diet was started, and the tube drain was removed. The patient was discharged from the hospital on the eighth postoperative day and followed up for two months with no complications.

Discussion

Fecal fistula following appendectomy is a rare complication.² This complication presents as a late but serious and challenging complication.² Etiological factors of post-appendectomy fecal fistula formation include severe peri-appendicitis involving the base of the appendix as well as adjoining caecal wall; neoplasia of appendix and caecum; infective bowel conditions especially intestinal tuberculosis, actinomycosis and Crohn's disease; distal obstruction and foreign body.² Nutritional debilitation of the patient will also play a role in forming such a fistula.⁴ Iatrogenic injuries to the caecum during appendectomy are also an etiological factor.⁴ Some authors believe that the use of purse-string sutures



Figure 2 Fistulography showing contrast material inside the colon.

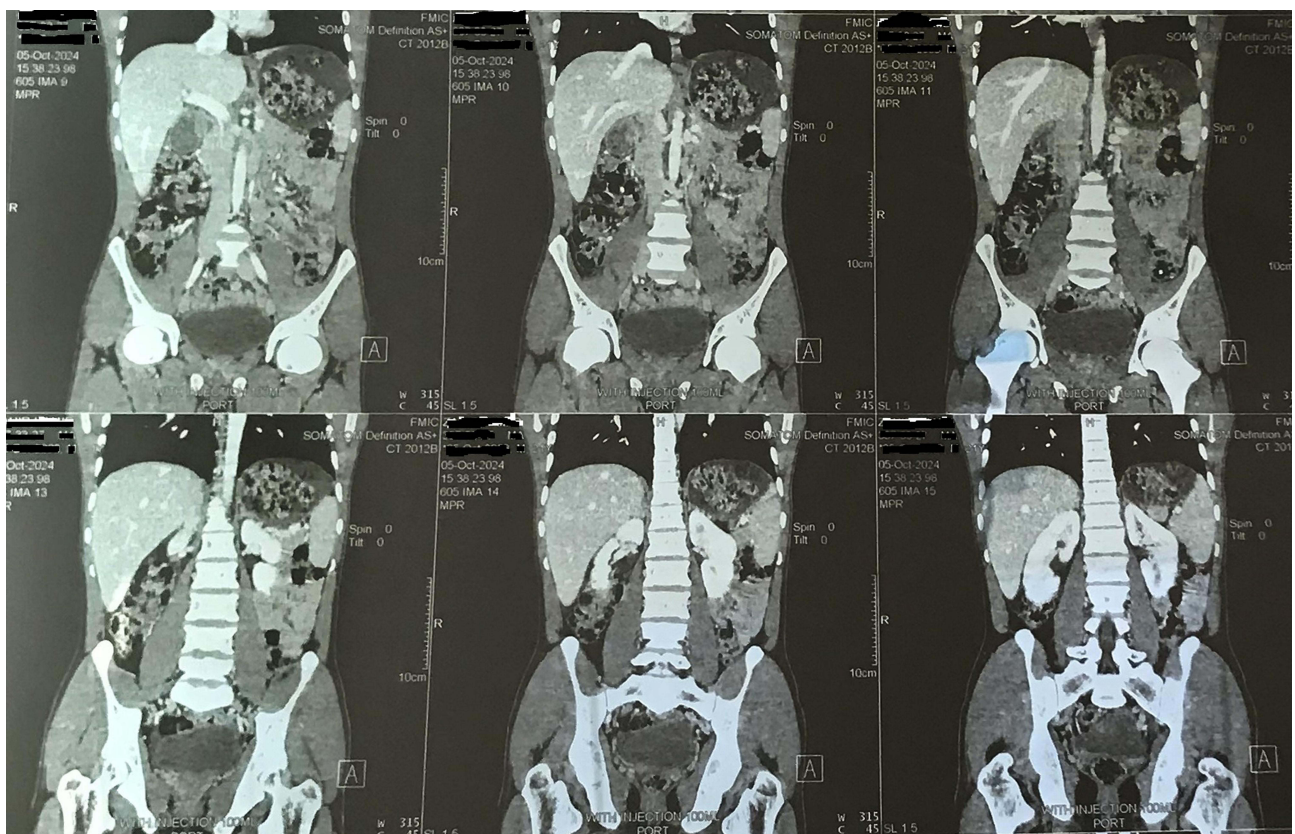


Figure 3 Contrast-enhanced CT scan of the abdomen showing underlying gossypiboma.

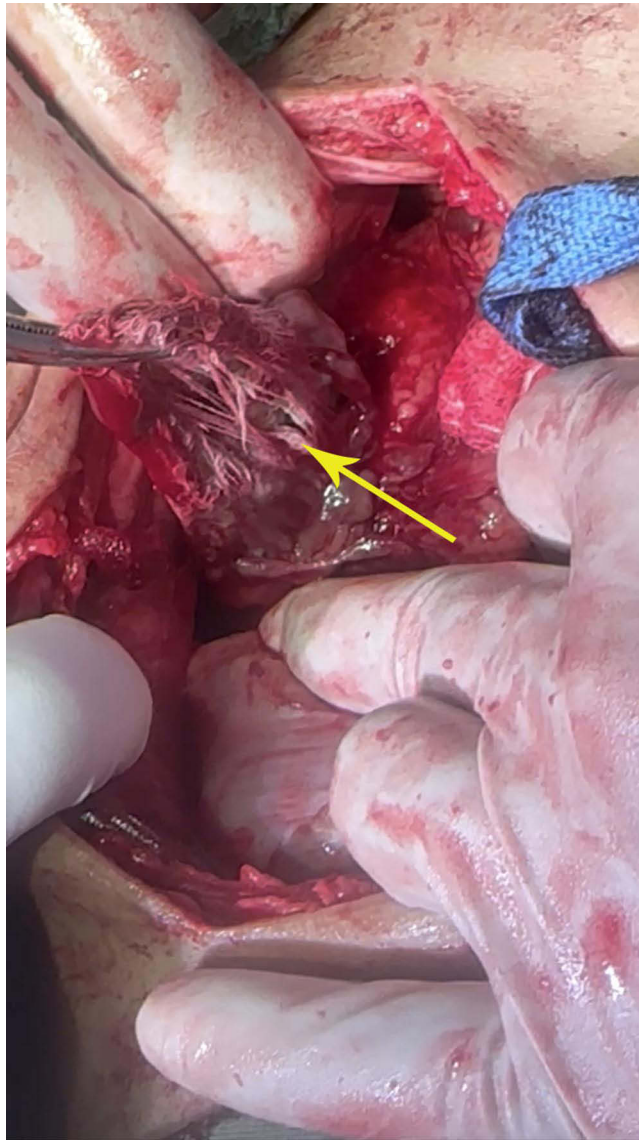


Figure 4 A foreign body in the right iliac fossa during operation. The yellow arrow shows the surgical gauze.

during appendectomy is the main contributory factor in the development of fecal fistula.⁷ In our case, the foreign body was the etiological factor of the disease.

About 90% of post-appendectomy fecal fistulas will not persist for a long time and close spontaneously within a month and about 10% within the next two months.⁸ After three months, none have been reported to close spontaneously.⁸ The longest duration of fecal drainage, before operative relief, so far reported was in a patient who had intermittent discharge for seven years; while the shortest duration of the fistula was a case which closed spontaneously in twelve hours.⁹

Fecal fistula may be confused with surgical site infection at its early stages.⁴ It usually presents with persistent fecal discharge from the wound, which continues despite frequent drainage and dressing.⁴ Associated symptoms include fever, nausea, and vomiting, and symptoms and signs of paralytic ileus.¹

Diagnosis of the post-appendectomy fecal fistula is usually made on a CT scan which shows extravasation of the oral contrast medium or air at the caecum. A CT scan will also show the foreign body if present.¹ Fistulography is useful in the late stages of the disease when the fistula tract is well-matured.¹

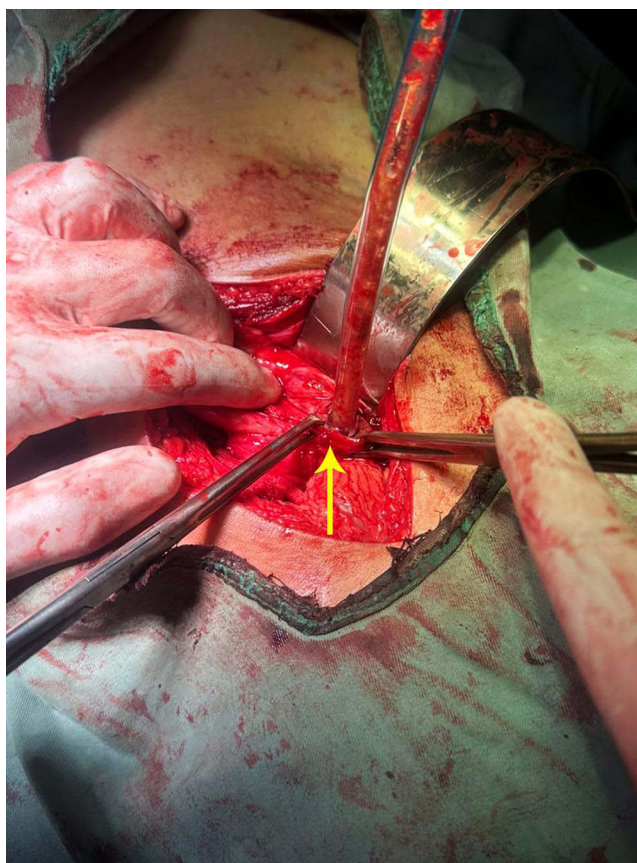


Figure 5 Fecal fistula intra-operatively. The yellow arrow shows the fistula tract.

Treatment of post-appendectomy fecal fistula includes non-surgical and surgical management options.² Non-surgical or conservative management is appropriate for most fistulas in the absence of underlying pathology and distal obstruction.²

Non-surgical management options for post-appendectomy fecal fistula include vacuum-assisted closure (VAC),¹⁰ fistulotomy with fibrin glue injection,¹¹ Infliximab in case of underlying Crohn's disease, and Somatostatin analogs which reduce fistula output and thereby easing management of fluid and electrolyte losses.¹² As the etiological factor of fistula formation in our case was the presence of the foreign body, none of these conservative managements will be appropriate.

Surgical treatment of post-appendectomy fecal fistula should be considered after 4–6 weeks of sepsis-free adequate nutritional support.⁹ Fistula tract excision, removal of the foreign body if present, and segmental resection of the involved bowel, with end-to-end anastomosis, is recommended.⁹ Surgical management will be the most appropriate option in our case to remove the foreign body, excise the long-standing fistula tract which has been there for one year, and repair the fistula primarily.

Conclusion

Fecal fistula following appendectomy is a rare but important complication. The presence of a remnant foreign body should be kept in mind in any case of persistent wound infection and fecal fistula after a surgical operation. CT scan of the abdomen with contrast is the diagnostic modality of choice for post-appendectomy fecal fistula. Most of the patients can be managed with conservative treatment, but surgical management with fistula tract excision, removal of foreign body, and segmental resection of involved bowel when appropriate is necessary in case of underlying pathologies such as the presence of distal obstruction, foreign body, and neoplasm.

Ethical Approval

This case report is exempt from ethical approval as determined by the ethical review board at our institution, given the nature of the article.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Acknowledgment

The authors would like to express their sincere gratitude to the patient and the patient's guardian for providing consent to include the case details and photographs in this publication.

Funding

No funding was received for this case report.

Disclosure

The authors declare that they have no competing in this work.

References

1. Anamika S, Rinki, Anoop Y, Satish K. Post appendectomy faecal fistula: a rare complication. *Global J Res Anal.* 2023;12(01):173–174.
2. Muhammad S, Syed HA, Syed IA. Persistent appendiceal faecal fistula following a complicated open appendectomy. *J Pak Med Assoc.* 2009;59(3):181–183.
3. Helmer KS, Robinson EK, Lally KP, et al. Standardized patient care guidelines reduce infectious morbidity in appendectomy patients. *Am J Surg.* 2002;183:608–613. doi:10.1016/S0002-9610(02)00860-7
4. Shirbur SN, Telkar SR, Goudar BV, Muzamil PMD, Chethan VN. Faecal fistula following appendectomy: a case report. *J Clin Diagn Res.* 2012;6(7):1322–1323.
5. Mohamed A. Faecal fistula, the most unfortunate sequelae of appendectomy. case report. *Internet J Surg.* 2010;27(2):1–4.
6. Muthukumarassamy R, Shankar Raman R, Sarath Chandra S, Jagdish S. Appendico-cutaneous fistula. *Indian J Surg.* 2005;67(6):323–324.
7. Baldwin JF. The prevention of faecal fistulas after appendectomy simple ligation vs precarious purse-string. *Ann Surg.* 1932;95(5):704–714. doi:10.1097/00000658-193205000-00008
8. Teubner A, Morrison K, Ravishankar HR, Anderson ID, Scott NA, Carlson GL. Fistulocyclysis on successfully replace parenteral feeding in the nutritional support of patients with enterocutaneous fistula. *Br J Surg.* 2004;91:625–631. doi:10.1002/bjs.4520
9. Deaver JB. Appendiceal fecal fistula. *Ann Surg.* 1924;80:56–57. doi:10.1097/00000658-192407000-00007
10. Cro C, George KJ, Donnelly J, Irwin ST, Gardiner KR. Vacuum assisted closure system in the management of enterocutaneous fistulae. *Postgrad Med J.* 2002;78:364–365. doi:10.1136/pmj.78.920.364
11. Eleftheriadis E, Kotzampassi K. Therapeutic fistuloscopy: an alternative approach in the management of postoperative fistulas. *Dig Surg.* 2002;19:230–236. doi:10.1159/000064218
12. Present DH, Rutgeerts P, Targan S, et al. Infliximab for the treatment of fistulas in patients with Crohn's disease. *N Engl J Med.* 1999;340:1398–1405. doi:10.1056/NEJM199905063401804

International Medical Case Reports Journal

Publish your work in this journal

The International Medical Case Reports Journal is an international, peer-reviewed open-access journal publishing original case reports from all medical specialties. Previously unpublished medical posters are also accepted relating to any area of clinical or preclinical science. Submissions should not normally exceed 2,000 words or 4 published pages including figures, diagrams and references. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/international-medical-case-reports-journal-journal>

Dovepress
Taylor & Francis Group