

Persistent appendiceal faecal fistula following a complicated open appendicectomy

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Abstract

Appendiceal faecal fistula is recognized serious complication of appendicectomy, which is one of the commonest surgical procedures performed in modern day surgical practice. We report a unique case of appendiceal faecal fistula which persisted for nine years in a teenage girl.

Introduction

Appendectomy is one of the commonest procedures performed in surgical practice. When the appendix is perforated or gangrenous with peri-appendicitis, the frequency of septic complications reaches as much as 30%¹ which includes wound infection, intra-abdominal abscess, fistula formation, and localized or diffused peritonitis.²

Post-appendectomy faecal fistula formation, though a rare complication, is associated with significant morbidity.³ It bears serious social, psychological, medical and nutritional hazards. Persistence of faecal fistula is governed by factors like foreign body, radiation, infection, inflammation, neoplasm, nutritional debilitation, and distal obstruction. Wide spectrum of procedures from vacuum assisted closure, fibrin glue injections to even segmental resection and end to end anastomosis have been advised for its management and definitive treatment. The longest duration of faecal drainage before operative relief, so far reported, was in a patient who had intermittent discharge for seven years.⁴

We report a case of a young female with persistent appendiceal faecal fistula in which the appendicular stump pouted out of the surgical scar in the fashion of a surgically made stoma for nine years. Fistula tract excision and primary repair was performed, after proper evaluation and exclusion of any underlying pathology.

Case Report

A 15 years old female came to the out-patient

department of surgery of Fatima Hospital & Baqai Medical University, Karachi, with a faecal fistula (Figure-1) near the



Figure 1: Persistent appendiceal faecal fistula, looking like a surgically made stoma.

right lateral edge of a six inches scar of transverse laparotomy. It was done for perforated appendicitis with diffuse peritonitis, 9 years back in a public sector hospital of the city. Postoperatively, the patient developed wound infection and then dehiscence in the second week of surgery. Following re-exploration, with wound debridement and re-suturing, the case was complicated further with faecal fistula formation. The fistula was managed conservatively and over three months the fistulous output decreased, but it never completely ceased. There was history of intermittent faecal discharge from the fistula especially when the girl developed diarrhea.

On examination there was pouting mucosa which looked like a surgically made stoma, 1.5 cm in diameter,

with a lumen not accepting even the tip of little finger. Foley's catheter (10 F) was inserted without any resistance and on withdrawal there was soakage with faecal matter.

Barium enema excluded any distal mass lesion, stricture or an abnormal cavity connected with the tract; however, it showed the fistulous tract opening into the caecum. On fistulography, the contrast was seen passing into the caecum and ascending colon. Colonoscopy revealed normal colon without any mass lesion or stricture, and a persistent opening at the site of the appendix base.

On admission, patient's haemoglobin was 6.2 gm%, haematocrit 48.6% and body weight 28.3 kg. She was transfused 2 units pack cells to raise the haemoglobin to 10.7 gm% and adequately hydrated to reduce the haematocrit to 21.7%. She was provided a high protein diet for ten days before operation, and her weight increased to 32.7 kg. Laparotomy was performed, excising the previous scar in elliptical fashion. The fistula tract along with the appendiceal stump were dissected out and excised, and the edges of caecum were refashioned. Primary closure was performed in two layers with vicryl 2/0 (Figure-2).



Figure 2: Appendiceal faecal fistula dissected out with feeding tube placed.

Postoperatively, the girl showed satisfactory recovery and was discharged on 10th post operative day after removal of stitches. The girl was followed in the OPD for three months, and she was found to be doing well with complete healing of the surgical wound.

Discussion

Post-appendectomy abscess and fistula formation are rare but serious complications. These occur mostly when there is severe peri-appendicitis involving the base of the appendix as well as adjoining caecal wall. Leakage from the appendiceal stump is incremented as a major etiological

factor in such patients.⁵ Neoplasia of appendix and caecum, infective bowel conditions especially intestinal tuberculosis, actinomycosis and Crohn's disease, distal obstruction and foreign body are also known etiological factors.

During the surgery focus stays on avoiding the serious complication of fistula formation. Procedures like caecostomy or even right hemicolectomy has been advised when there is severe inflammation and abscess formation. Use of tube caecostomy seems to be quite reasonable in preventing post-appendectomy abscess and faecal fistula formation in patients with severe peri-appendicitis involving the base of the appendix as well as adjoining caecal wall, and is associated with least morbidity.³

Persistence of a faecal fistula depends on afore mentioned factors plus nutritional debilitation and epithelialization. About 90 percent close spontaneously within a month and about 10 percent within the next two months. After three months none have been reported to close spontaneously.⁶ The longest duration of faecal 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.⁴

Non-surgical management options for faecal fistula include vacuum assisted closure (VAC),⁷ fistuloscopy with fibrin glue injection⁸ and Infliximab which has improved medical management in case of Crohn's enterocutaneous fistula (ECF); infliximab is now the first line therapy for Crohn's ECF.⁹ Somatostatin analogues reduce fistula output, easing management of fluid and electrolyte losses, but multiple randomized trials have shown that it causes no improvement in fistula closure rates.¹⁰

Surgical management should be considered after 4-6 weeks of sepsis-free adequate nutritional support. Fistula tract excision and segmental resection of involved bowel, with end to end anastomosis is recommended.⁴

This case is unique as the cutaneous opening of fistula looked strikingly similar to a surgically made stoma, history of intermittent discharge for nine years and on exploration the tract turned out to be the stump of appendix. Persistence in this case was governed by nutritional status of the patient and epithelialization of the tract. Fistula tract excision and primary repair after refreshing the edges of caecum was done, because there were no signs of any caecal disease or intra abdominal abscess. Caecal tissue and the tissue from the tract were sent for histopathology which revealed normal gut tissue excluding the possibility of neoplasia of caecum or appendicular stump and any other underlying pathology.

Conclusion

After exclusion of any underlying pathology in persistent appendiceal fistula, the simplest procedure of fistula tract excision and primary repair might be considered as operative procedure.

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