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Ileovesical Fistulae: A Rare Complication of Crohn Disease

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ABSTRACT

An ileovesical fistula is a rare complication of Crohn disease. It presents with recurrent abdominal pain, pneumaturia, fecaluria, recurrent urinary tract infection, and dysuria. A 13-year-old girl presented with an ileovesical fistula, which was diagnosed by clinical history, micturating cystourethrogram, and computed tomography (CT) cystography. Exploratory laparotomy, an excision of the fistulous tract, bladder repair, and ileostomy were performed. The histopathological examination of a resected, affected ileal segment showed the classical non-caseating granuloma, characteristic of Crohn disease. The restoration of bowel continuity was done later on. The patient is doing well after 3 years of follow-up.

CASE REPORT

A A 13-year-old girl presented with recurrent abdominal pain for 3 years along with pneumaturia, fecaluria, recurrent urinary tract infection, and weight loss for 6 months. Her general physical examination showed moderate pallor, and and examination of the abdomen was unremarkable. Her urine culture showed the growth of E. coli sensitive to ciprofloxacin. Her hemogram showed Hb% of 8 gm% and her serum albumin was 2.8 gm%. The renal parameters were normal. The ultrasound of the abdomen showed the normal bilateral renal units. The cystoscopy showed the presence of a 2 cm x 2 cm opening over the dome of the bladder, discharging fecal matter with bullous edematous reaction surrounding the opening (Figure 1a). The left ureteric orifice was normal, and the right orifice was not appreciated because of the bullous edematous reaction. A 15 Fr cystoscope entered easily inside the lumen of the intestine (Figure 1b). The cold-cup biopsy from the margins of the fistulous orifice was suggestive of chronic, non-specific inflammation. A micturating cystourethrogram (MCU) showed the contrast entering into the small bowel loop (Figure 2a). The computed tomography (CT) cystography with 3D reconstruction showed the presence of an ileovesical fistula (Figure 2b, Figure 2c). A urine specimen for the AFB stain, microscopy, and a culture were negative for acid-fast bacillus.

On exploratory laparotomy, bowel loops were adhered to each other and the fistula was about 1 feet proximal to the ileocecal region. The bladder was opened in the midline anteriorly and extended superiorly up to the fistulous opening. The bladder side of the fistulous margin was excised completely, ureteral orifices were stented, and the bladder was repaired in 2 layers by 3-0 polygalactin. A urethral catheter and a suprapubic catheter were inserted. About a 10 cm ileal segment on either side of the ileal fistulous opening was resected. The ileal loops were exteriorized as ileostomy.

The postoperative period was uneventful. The histopathological examination of the resected ileal loops near to the fistula showed chronic, nonspecific inflammatory infiltrate with non-caseating granuloma (Figure 3a). The histopathological examination of the bladder wall near the fistulous site also showed chronic, nonspecific inflammation (Figure 3b). A cystogram, performed at 4 weeks just following catheter removal, showed no evidence of contrast extravasation. The bladder biopsy was suggestive of chronic cystitis. Postoperatively on the enzyme immune assay, the anti-saccharomyces cerevisiae antibody (ASCA) IgG serum level was 26.3 IU/L and the ASCA IgA serum level was 76.3 IU/L, with perinuclear antineutrophil cytoplasmic antibody (P-ANCA) and cytoplasmic antineutrophil cytoplasmic antibody (C-ANCA)

KEYWORDS: Ileovesical fistulae, pneumaturia, Crohn disease

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Figure 1. a) Cystoscopy showing an opening on the dome of the bladder, with fecal material (left). b) An endoscopic view of the ileal lumen (right).

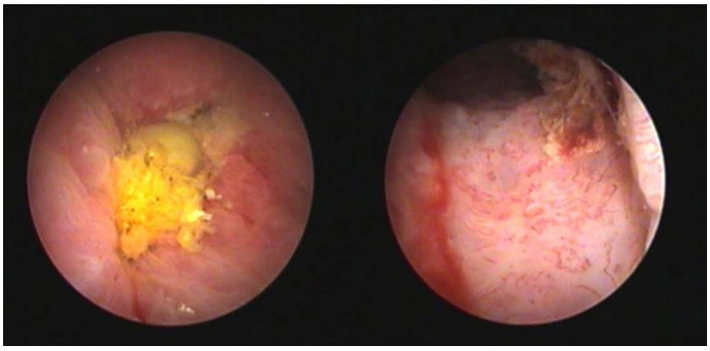
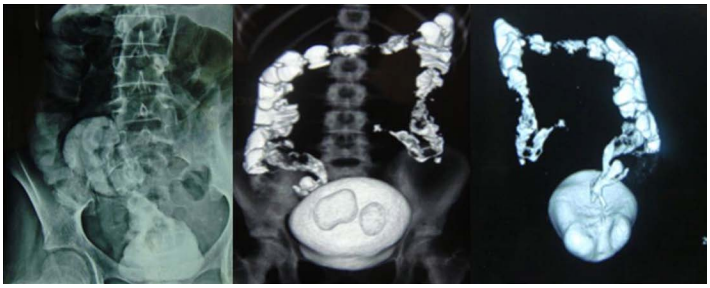


Figure 2. a) An MCU showing contrast entering in the lumen of the ileum (left). b) A CT cystography with 3D reconstruction in AP view showing ileovesical fistulae (middle). c) A CT cystography with 3D reconstruction in PA view showing ileovesical fistulae (right).



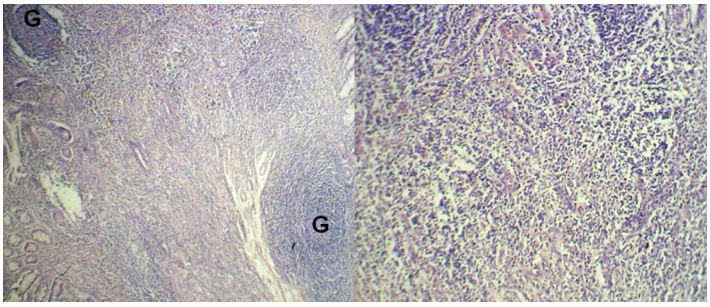
being negative. The patient was put on a low-dose steroid (prednisolone, 10 mg once a day, tapered and stopped after 6 weeks). The patient's general condition improved with weight gain (3 kg in 6 weeks). Ileostomy closure was done after 3 months of the initial laparotomy. The postoperative period was uneventful. The patient is doing well in 3 years of follow-up.

DISCUSSION

An ileovesical fistula is a rare complication of Crohn disease [1]. There was a time when Crohn disease was considered extremely rare in India, but in the last 10 years, there are case reports that suggest that it is no longer very rare [3,4]. The ileovesical fistula could be due to tuberculosis, malignancy, and ulcerative colitis. From India, Crohn disease has also been reported in pediatric age groups [4]. The diagnosis is based on clinical history, cystoscopy, cystography, and biopsy. The classical histopathology in the affected intestine reveals typical non-caseating transmural granulomas with skip lesions [1-3]. There are serological markers such as ASCA and ANCA, which help in making the diagnosis [5]. The treatment of small, unrecognized fistulae could be conservative using corticosteroids and 5-aminolevulinic acid [1-3,5]. The conservative treatment leads to improvement in the symptoms and closure of the fistula. The larger fistula needs surgical intervention.

In exploratory laparotomy for ileovesical fistulae, another concomitant internal fistulae such as an ileosigmoid fistula must be ruled out [1,2]. In our preoperative patient, we diagnosed the fistulae by cystoscopy and cystography suggestive of ileovesical fistulae. The preoperative biopsy from the fistulous margin in the bladder revealed chronic, nonspecific inflammation. The histological examination of the resected ileal segments showed the transmural, non-caseating granuloma typical of Crohn disease. The postoperative serological markers (ASCA and PCNA) were done to strengthen this rare diagnosis. The ASCA (raised titre) is more specific to Crohn disease [5]. Steroids should be given to patients, which is beneficial in such patients. In our patient, her general condition improved following steroid treatment, and the patient showed weight gain.

Figure 3. a) A microphotograph showing the transmural, non-caseating granuloma (left). b) A microphotoraph showing inflammatory cell infiltrate in the bladder biopsy (right).



CONCLUSION

Ileovesical fistulae in Crohn disease is a known but rare complication. For larger fistulae, surgical intervention in the form of exploratory laparotomy, excision of the fistulous tract, bladder closure, and, finally, restoration of bowel continuity are the treatments of choice.

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