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Appendicovesical Fistula: A Case Report

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ABSTRACT

The author reports a case of a young boy with appendicular vesical fistula. He presented to the University Teaching Hospital, Lusaka, Zambia with urinary retention. He was also passing stool in the urine. Appendicular vesical fistula is one of the intestinal vesical fistulas. It is a very rare condition. The most common form is vesical colonic fistula, which is caused by diverticulosis (50-60%), colonic cancer (20-25%), or Crohn's disease (10%). Appendicular cancer, especially carcinoid tumor, is another underlying cause. Appendicular vesicle fistula is a rare but well known complication of appendicitis. The most common presentation is pneumaturia, fecaluria, and recurrent or chronic urinary tract infections.

KEYWORDS: Appendix; Urinary bladder; Fistula

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INTRODUCTION

The author presents a case report of a young boy with an appendicovesical fistula, a rare condition that may complicate acute appendicitis. A Medline search of published literature revealed that 115 cases have been reported and the majority of cases have occurred in male patients [1,2].

Appendicovesical fistula is a rare form of intestinovesical fistulae. The most common form is vesicocolonic fistula, which is most frequently caused by diverticulosis (50-60%), followed by colonic cancer (20-25%) and Crohn's disease (10%) [3]. In patients with appendicovesical fistulae, appendicular cancer (commonly carcinoid tumor) is also a reported cause. Appendicovesical fistula is a rare but known complication of appendicitis [4,5]. The most common presentation is pneumaturia, fecaluria and recurrent or chronic urinary tract infections [6].

CASE REPORT

DK was a 6-year-old boy from the rural outskirts of Lusaka, Zambia. He presented to the Pediatrics Outpatient Department with acute urinary retention. For over 1 month prior to presentation, he had a febrile illness with persistent watery diarrhea, urinary frequency, dysuria and fecaluria. A clear history suggestive of acute appendicitis prior to onset of symptoms could not be elicited.

On clinical examination, he was a well-nourished boy weighing 16 kg (35 lbs). He was well hydrated and had a temperature of 37.8°C (100°F). His bladder was distended and tender; half a liter of cloudy urine was drained on catheterization. The rest of the abdomen was normal. No urine was drained from a catheter in subsequent days, but he continued to pass watery diarrhea.

The patient underwent a series of investigations that included a urinalysis (leucocytes, nitrites and blood). His urine culture showed mixed growth. His full blood count showed hemoglobin of 10.6 g/dL; the rest of the parameters were normal. He had a negative HIV antibody test and normal renal function tests. A radiograph of the kidneys, ureter, and bladder (KUB) was normal, and an abdominal ultrasound scan showed a minimally filled bladder that contained some debris.

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original study

Figure 1. Cystograph Showing Overflow of Contrast Into the Bowel.

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There were no upper tract changes. A cystograph revealed overflow of contrast into the bowel as shown in Figure 1.

The patient underwent a laparotomy. Intraoperative findings were an appendicovesical fistula with a patent lumen communicating with the bladder, as shown in Figure 2. Gross inspection revealed an inflamed appendix, while the rest of the abdominal organs were normal. No other features of acute peritonitis were noted. The appendix was dissected off of the bladder and an appendectomy was done. The bladder edges of the fistula were excised and the bladder was closed.

Histological examination of the appendix showed an appendicular epithelium with lymphoid aggregates in the submucosa, serosal edema, vascular congestion, and fibrous deposits. The bladder margins showed transitional bladder epithelium with hyperplasia and chronic inflammation. No granulomata, tumor, or features of Crohn's disease were noted.

Postoperatively, the patient recovered well with normal bowel sounds and opened bowels the following day. He gradually began an oral diet. However, he developed abdominal distension secondary to paralytic ileus. Food was

Figure 1. Intraoperative Finding of Appendicovesical Fistula.

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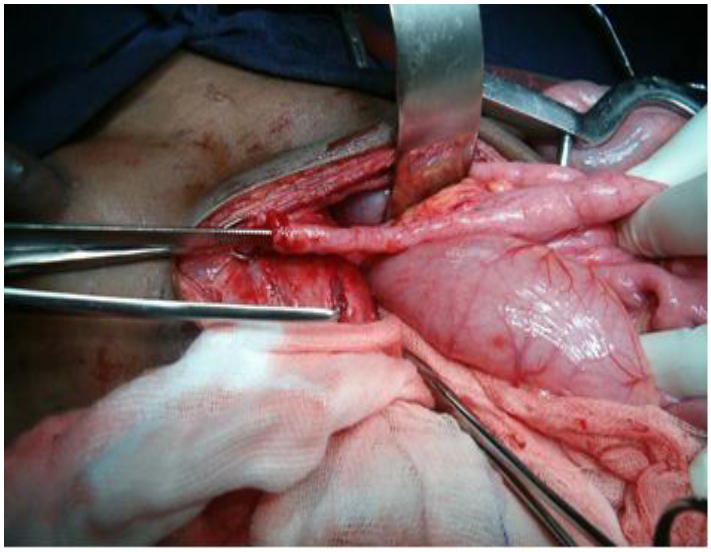

immediately suspended and a nasogastric tube was inserted for decompression. However, a few hours later he aspirated and collapsed on the second postoperative day.

DISCUSSION

Appendicovesical fistula is formed through direct spread of inflammation from the appendix to the bladder. Although the inflammation might theoretically also proceed from the bladder to the intestine, more commonly the progression is from the intestine to the bladder. An inflamed appendix, especially the pelvic or subcaecal positioned appendix, can attach to the bladder and spread the inflammatory process to it. The weakened tissue thus forms a fistulous tract. Bowel contents are likely to take the shorter route through the fistula into the bladder when the bladder is empty or at low pressure. The hard formed stool (as opposed to urine) can block the urethra and cause urinary retention. The appendicitis may be subacute, or it may be an acute appendicitis that receives no treatment if the patient lives in a remote rural area were surgical care is still inadequate. Most patients present with urologic symptoms, as has been reported previously [7].

The diagnosis of appendicovesical fistula can be difficult and cause a delay in the inevitable surgical treatment. Although a single cystogram rarely shows the fistula, it can be enhanced by use of fluoroscopy. With this procedure, the contrast is seen extravasating into the bowels from the bladder [6].

Unfortunately, this procedure may not be available in resource-limited centers.

Laparatomy with appendectomy is the definitive treatment. The present case shows one of the complications of subacute appendicitis and supports the surgical treatment of appendicitis as opposed to conservative management. Appendicitis is an acute surgical condition that requires prompt surgical intervention.

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