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Case Report

Appendiculo-Vesical Fistula: A Rare Complication of Acute Appendicitis

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Abstract: ***Introduction:*** Appendicovesical fistula is a rare condition that often presents diagnostic challenges. We report the first case managed in our department. ***Case Report*:** The patient was a 62-year-old woman who presented with pelvic pain associated with urinary frequency and fever evolving over the past two weeks. Three months earlier, she had experienced pain in the right iliac fossa radiating to the pelvis. No medical investigations were conducted at that time. She had self-medicated, which alleviated the pain. Physical examination was unremarkable except for pelvic tenderness on palpation and pyuria on urination. Laboratory tests revealed leukocytosis with a white blood cell count of 14,000/mm³. A contrast-enhanced abdominal CT scan was performed, revealing a communication between the cecum and the bladder dome. A diagnosis of a cecovesical fistula was made. An exploratory laparotomy was indicated. Intraoperatively, the abdominal cavity was clean. A phlegmonous appendix in the pelvic position adherent to the bladder was discovered. Upon dissection, an orifice communicating the appendiceal lumen with the bladder lumen was identified. An appendectomy was performed along with debridement of the bladder perforation edges and bladder repair (cystorrhaphy) over a transurethral Foley catheter. ***Conclusion:*** Appendicovesical fistula is a rare entity. Diagnosis is most often established intraoperatively.

Keywords: Fistula, Appendicovesical, Pelvic Pain, Appendectomy, Cystorrhaphy.

INTRODUCTION

A fistula is defined as an abnormal communication between two epithelial surfaces [1].

An appendicovesical fistula is an abnormal connection between the appendix and the urinary bladder. It is a specific form of enterovesical fistula.

Enterovesical fistulas are most commonly the result of an inflammatory and infectious process of digestive origin. This process eventually leads to the formation of a fistulous tract into an otherwise healthy bladder. Their incidence is estimated at 2 per 10,000 hospitalizations [2].

Appendicovesical fistulas account for approximately 5% of all enterovesical fistulas [3].

The main causes of appendicovesical fistula reported in the literature include appendicitis, appendiceal neoplasms, and Crohn's disease of the appendix [4].

We report a case of an appendicovesical fistula as a complication of untreated appendicitis.

CASE REPORT

The patient was a 62-year-old woman who presented with pelvic pain associated with urinary frequency and fever evolving over two weeks. She reported experiencing pain in the right iliac fossa radiating to the pelvis three months earlier. No diagnostic workup had been performed at that time. She had self-medicated, which temporarily alleviated the pain. Physical examination was normal except for pelvic tenderness on palpation and pyuria during urination. Both gynecological and urological examinations were unremarkable. Laboratory tests showed leukocytosis with a white blood cell count of 14,000/mm³. Urine cytobacteriological analysis was negative. A contrast-enhanced abdominal CT scan revealed a communication between the cecum and the bladder dome. There were no diverticula or colonic wall thickening. The small intestine appeared normal. A diagnosis of cecovesical fistula was established. An exploratory laparotomy was indicated. Intraoperatively, the abdominal cavity was clean. A phlegmonous appendix in the pelvic position adherent to the bladder was identified. The appendiceal apex was fibrotic and intimately adhered to the bladder (Figure 1).

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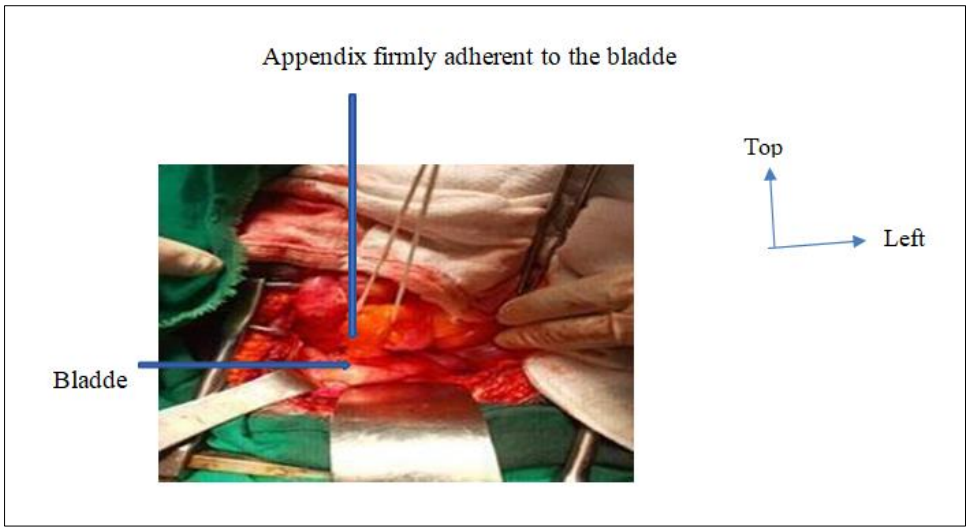

Figure 1: Appendix firmly adherent to the bladder

After dissection, an orifice was identified connecting the appendiceal lumen to the bladder lumen (Figure 2).

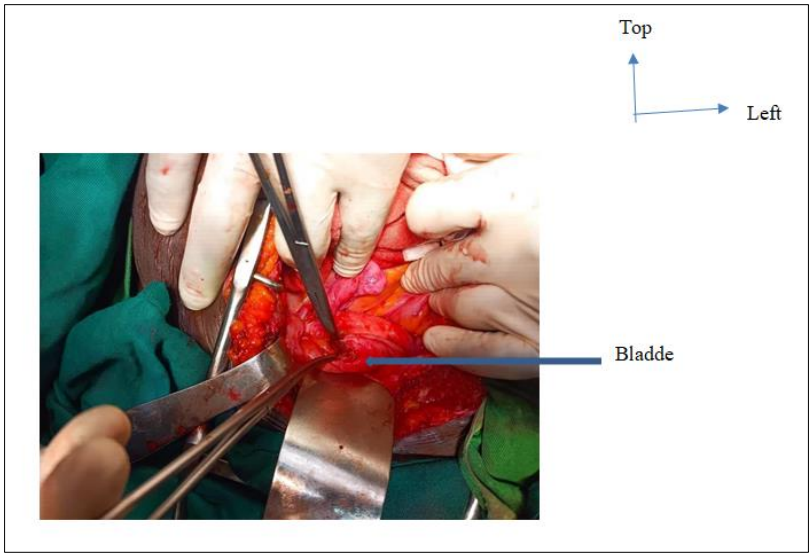

Figure 2: Bladder perforation observed after the appendix was freed

An appendectomy was performed, along with debridement of the edges of the bladder perforation and cystorrhaphy over a transurethral urinary catheter.

The postoperative course was uneventful. The patient was discharged on postoperative day 7, and the urinary catheter was removed on day 21.

Histopathological examination of the appendix confirmed acute appendicitis.

The six-month follow-up showed no abnormalities.

DISCUSSION

Enterovesical fistulas complicate the course of inflammatory or neoplastic pelvic diseases. Sigmoiditis is the most common etiology, while colonic cancer, Crohn's disease, and radiotherapy constitute other major causes [5]. In our case, we identified an appendiceal cause, which is a rarer etiology. Appendicovesical fistulas are uncommon [3], and can occur in both young and elderly patients. A male predominance is observed in approximately 75% of cases [3]. Indeed, the internal genital organs in women are thought to serve as a barrier between the cecum and the bladder. Since the appendix is located on the cecum, it benefits from this protective barrier.

The clinical presentation is dominated by urinary symptoms. Dysuria, urinary frequency (pollakiuria), and burning sensations during urination are generally prominent, which was not the case for our patient.

Fecaluria and pneumaturia are pathognomonic for enterovesical fistulas; however, these signs may be absent in approximately 65% and 50% of cases,

respectively [6]. These symptoms were not observed in our patient.

The role of complementary investigations is to identify the fistulous tract and to evaluate the underlying pathology in order to determine the best therapeutic approach. Cystography and barium enema have a high false-negative rate. The fistula is rarely detected on cystoscopy unless specifically sought [3], with detection rates estimated at 40% [3].

Computed tomography (CT) is suggestive when it reveals intravesical gas bubbles and thickening of the bladder or adjacent colonic wall. These signs have been reported in several series in 100% of cases, underscoring the value of this examination [7].

CT scan delineate the fistulous tract and its anatomical relationships in only 6 to 44% of cases, as the tract may not lie within the imaging plane [7, 8]. This limitation has led some authors to propose three-dimensional reconstructions [9]. CT remains the best modality to assess pelvic inflammation and the presence of abscesses, and to evaluate the progression of the underlying pathology [7]. It is highly effective for diagnosing appendicovesical fistulas [10]. In our patient, the presence of air was observed but was interpreted as a communication between the cecum and bladder on CT. Indeed, the CT scan lacked precision in our case since the diagnosis of appendicovesical fistula was ultimately made intraoperatively.

Magnetic resonance imaging (MRI) is considered by some authors to be the most specific for diagnosis and assessment of the underlying pathology, especially in the absence of prior radiation exposure [11, 12]. However, this modality remains scarcely available and costly in our practice.

The treatment of appendicovesical fistulas remains surgical, as with other enterovesical fistulas. It consists of appendectomy and cystorrhaphy. The procedure can be performed laparoscopically or via laparotomy [11, 12]. Our patient underwent laparotomy because laparoscopy is not available in our hospital. The greater omentum may occasionally be interposed between the cecum and the bladder suture to prevent recurrence [12]. A simple bladder suture can be performed but must be protected by a urinary catheter maintained for 10 days [12]. In our patient, appendectomy and cystorrhaphy were performed. The prognosis is generally favorable, as was the case in our report.

CONCLUSION

Appendicovesical fistula is a rare complication of appendicitis. Diagnosis is often challenging in resource-limited settings and is frequently established intraoperatively. Treatment is decisively surgical to prevent recurrent urinary tract infections.

Indeed, in the presence of persistent pelvic pain accompanied by episodes of right iliac fossa pain and pyuria, an appendicovesical fistula should be considered in the differential diagnosis.

Conflicts of Interest: The authors declare no conflicts of interest.

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