



Complex vesicocutaneous fistula: Successful conservative management

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ABSTRACT

Vesicocutaneous fistulas are rare entities that could be either congenital or acquired. The diagnosis is usually based on clinical findings and imaging modalities. While most vesicocutaneous fistulas heal spontaneously, it is important to decrease the intravesicular pressure by diverting the urine. Moreover, surgical options are present to remove the fistula. In this case report, we highlight the case of a 67-year-old male, with recurrent obstructive cystitis and colorectal adenocarcinoma who developed a vesicocutaneous fistula. Decompression of the bladder led to complete closure of the tract.

Introduction

By definition, a fistula involves an abnormal communication between two or more organs that are lined by an epithelium.¹ Most fistulas are iatrogenic, but they can occur secondary to congenital anomalies, malignant disease, recurrent infections, radiation therapy, or trauma.² An example of fistulas are vesicocutaneous fistulas.

We present the case of a 67-year-old man who developed a vesicocutaneous fistula, between the bladder and the anterior abdominal wall, in the presence of benign prostatic hyperplasia, recurrent bacterial cystitis, and previous radiotherapy and chemotherapy which all predisposed the patient to an inflamed bladder wall. Besides, the diverting colostomy that was performed for the colorectal adenocarcinoma led to a post-surgical anterior abdominal wall abscess.

Case presentation

A 67 year-old man with a history of type 2 diabetes mellitus, benign prostatic hyperplasia, recurrent bacterial cystitis, colorectal cancer status post chemotherapy and radiation therapy, as well as status post diverting colostomy two days prior to presentation, started developing midline abdominal pain with purulent and urine discharge from a midline incisional site.

There was no reported fever, nausea, vomiting, or increased output in the colostomy bag.

On physical exam, the patient was cachectic looking. The abdomen

was tender in the paraumbilical and suprapubic region with normoactive bowel sounds. The colostomy site was red and swollen, and the bag was draining watery stool. Blood studies were significant for iron deficiency anemia (Hemoglobin 6.8 g/dL, hematocrit 23.7%, MCV 78 fl, RBC 3.06 mil/cu.mm, and iron saturation 11%). The WBC was normal at 6800/cu.mm, while the platelet count was elevated at 746000/cu.mm. The basic metabolic panel, including creatinine, was normal. The fecal occult blood test was negative. Urinalysis was evident for proteinuria, hematuria, and positive leukocyte esterase. The urine culture was positive for *Klebsiella pneumoniae*, *Streptococcus constellatus*, *Corynebacterium species*, and *Pseudomonas aeruginosa*.

A computed tomography of the abdomen showed a thickened inflamed bladder wall with a fistulous tract extending to the anterior abdominal wall in the midline infraumbilical region with an underlying abscess collection and an overlying skin defect (Fig. 1A and Fig. 1B).

After blood transfusion, a Foley catheter was placed for bladder decompression and urinary diversion. A direct fistulogram was subsequently performed few days later to assess for fistulous tract closure. No contrast opacification was seen at the level of the bladder suggestive of fistulous tract closure (Fig. 2). For complicated pyelonephritis, meropenem was initially administered followed by cefepime and metronidazole until closure of the fistula. For the anterior abdominal wall abscess, surgical incision and drainage was performed.

At 5 months after the spontaneous closure of the fistula, there was no abdominal pain or urine discharge from the colostomy site. However, the patient refused to perform voiding cystourethrogram to assess the

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Fig. 1A. Sagittal view of a contrast enhanced CT scan showing a thickened inflamed bladder wall (White arrow) with an enhancing fistulous tract (Wide black arrow) to the anterior abdominal wall with an underlying abscess (Black arrow).

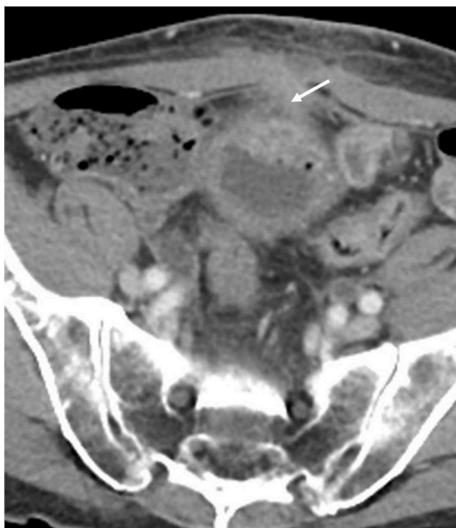


Fig. 1B. Axial contrast enhanced CT scan view showing an enhancing fistulous tract (White arrow) between the bladder dome and the anterior abdominal wall.

urine flow or possible recurrence.

Discussion

The obvious causes of vesicocutaneous fistulas are variable, mostly related to surgery, trauma, chemotherapy, or radiotherapy. In our case, the recurrent obstructive cystitis and previous radiotherapy could have played the role of inducible factors. However, some other factors can

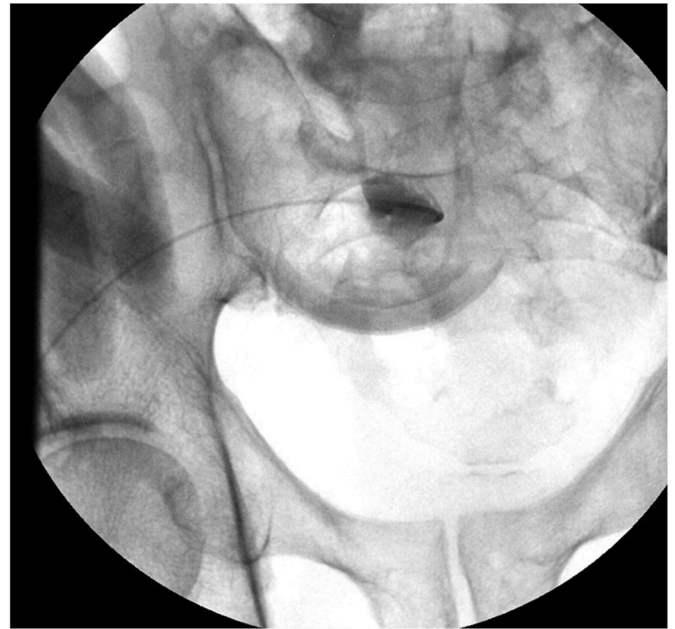


Fig. 2. A fluoroscopic spot image showing a 5 French Kumpe diagnostic catheter introduced into the external site of the skin fistula with no contrast flowing into the bladder lumen suggestive of a fistulous tract closure.

maintain and exacerbate the fistula. For example, the presence of an abdominal wall abscess and type 2 diabetes mellitus are all examples of aggravating factors in our case.

Most vesicocutaneous fistulae close spontaneously. As a first step, urinary diversion is important.³ However, failure to close is attributed to a well-epithelialized fistulous tract or when affected by foreign bodies or neoplasms. Therefore, it is important to relieve the intravesicular pressure to allow a spontaneous closure of the fistula. Catheterization of the bladder is needed to decrease volume of residual urine. In case of infection, the source should be treated to allow healing by secondary intention and ceasing the urinary leak. Whenever surgery is required, excision of all granulation tissue and mobilization of the bladder, subcutaneous tissue, and skin is needed to allow elimination of dead space.⁴

Following the closure of the fistula, it is important to monitor the urine flow either by a urodynamic study or voiding cystourethrogram. While few fistulas open-up after spontaneous closure, few can recur years thereafter. The recurrence rate is estimated at around 16%.⁵

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