# Case Based Urology Learning Program

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A 65-year-old man presents with recurrent UTIs, irritative voiding symptoms and occasional but definite pneumaturia. The patient also has intermittent LLQ pain, irregular bowel movements and occasional fever. SCr is 1.0 mg/mL. Urine culture grows 3 different bacteria.

What is the differential diagnosis and what is the most likely diagnosis?
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**Enterovesical fistula (ECF) due to:**
- Diverticulitis
- Cancer
- Crohn’s disease
- UTI due to gas forming bacteria
- Emphysematous cystitis

*Diverticulitis is the most common cause of enterovesical fistula and given the associated LLQ pain and irregular bowel movements, this is probably the most likely diagnosis.*
What other history would be helpful?
What other history would be helpful?

Further details about **bowel habits**: constipation, loose BMs, blood in stool

Further details about **lower urinary tract symptoms or hematuria**

Personal **history of diverticulitis, inflammatory bowel disease**

Personal **history of diabetes, steroid use, or other factors that could be immunosuppressive**

**Family history of colon cancer**
What would you look for on physical examination?
What would you look for on physical examination?

Lymphadenopathy
Abdominal mass or tenderness
Suprapubic fullness or tenderness
Careful exam of external genitalia
Rectal exam for mass and to evaluate prostate
What further evaluation would you pursue, given concern about enterovesical fistula (ECF)?

What would you be looking for on each study?
What further evaluation would you pursue, given concern about enterovesical fistula (ECF)?
What would you be looking for on each study?

Evaluation should include a CT scan with oral/rectal contrast with imaging before and after IV contrast. Findings suggestive of an ECF due to diverticulitis include contrast or gas in the bladder (in the absence of recent instrumentation), a thickened bladder wall, and diverticulosis. CT can also evaluate for a mass suggestive of colon cancer or pelvic abscess.

A cystoscopy will typically show an inflamed area near the dome or to the left for diverticulitis or colon cancer, and on the right side for Crohn’s disease. More specific findings can include actual visualization of a fistula with drainage of bowel contents or pus into the bladder.

A colonoscopy should also be considered to exclude colon cancer.
What other tests could be considered?
What other tests could be considered?

Other potentially useful tests include:

Poppy seed test with demonstration of poppy seeds in the urine 48 hours after oral ingestion strongly suggests the diagnosis. A similar but more expensive test involves oral ingestion of a chromium radioisotope with scanning of the urine 24 and 48 hours later.

Barium enema in an effort to visualize a fistula, along with examination of the urine sediment afterwards for the presence of barium.

Cystogram in an effort to visualize the fistula.

The sensitivity of barium enema and cystogram are relatively low and these tests are typically not performed for this purpose.
CT reveals classic findings for enterovesical fistula due to diverticulitis but no mass or abscess are identified. Colonoscopy demonstrates diverticulosis with inflammation but no evidence of cancer. Cystoscopy demonstrates marked inflammation centered primarily to the left side of the dome.

How would you manage this patient?
How would you manage this patient?

This patient should be explored for **sigmoid resection under antibiotic coverage**.

For the bladder, the **fistula tract should be excised with debridement back to healthy tissue along with primary closure of the bladder**.

After primary bowel anastomosis, an **omental flap can be interposed between the bladder and the bowel**.

Temporary ureteral stents can be considered to minimize the risk of ureteral injury (and to facilitate identification of ureteral injury if it occurs), and might be particularly useful if a pelvic abscess or locally invasive cancer was present.
Selected Reading


Topic: Inflammatory/Infections

Subtopics:

Enterovesical Fistula