

Diagnosis and Surgical Management of Uroenteric Fistula



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KEYWORDS

• Fistula • Urinary • Diverticulitis • Crohn

KEY POINTS

- Uroenteric fistulae can occur between any part of the urinary tract and the small and large bowel. Nomenclature and classification are generally based on the organ of origin in the urinary tract and the termination of the fistula in the segment of the gastrointestinal tract.
- Colovesical fistula secondary to diverticulitis is the commonest fistula that urologist and surgeons treat.
- Enterovesical fistulae are managed either conservatively or surgically.
- Although the principles of management are uniform, surgeons should be familiar with different surgical approaches.

INTRODUCTION

A fistula is an abnormal communication between 2 epithelium-lined cavities. Uroenteric fistulae can occur between any part of the urinary tract and the small and large bowel. Nomenclature and classification are generally based on the organ of origin in the urinary tract and the termination of the fistula in the segment of the gastrointestinal (GI) tract. Fistulae can cause important physiologic, biochemical, and infectious alterations and can often be a source of considerable emotional and psychological distress, thus a methodical and expeditious treatment approach is important for a successful outcome. Although some fistulae heal with conservative management, surgery is often necessary. Constant reassurance in cases in which the fistula will take extended periods to heal is equally important.

Congenital fistulae occur but are rare; most are acquired. Causes of acquired fistulae include trauma, inflammation, radiation, and malignancy, and they can also be iatrogenic. Uroenteric fistulae most frequently occur in a setting of inflammatory bowel disease, and diverticulitis is the commonest cause, accounting for

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approximately 65% to 79% of cases, and these are mostly colovesical. The second most common cause of fistulae is cancer (10%–20% of cases), followed by Crohn disease (5%–7%). The location and underlying disorder often determine the symptoms. Imaging with contrast in the bowel and intravenous contrast to outline the urinary tract in cross-sectional imaging with a computed tomography (CT) scan or MRI often helps in the diagnosis.

Although every type of fistula has specific methods and procedures necessary for treatment, the basic principles of managing urinary fistulae remain the same and include:

Adequate nutrition
 Diversion of the urinary tract
 Diversion of the GI tract, or bowel rest
 Treat underlying inflammatory processes or malignancy
 Surgery

Principles of surgery when indicated include the following:

Appropriate timing
 Anatomic separation of involved organs, maintaining adequate vascularity
 Watertight closure in layers with interposition of omentum
 Multiple-layer, tension-free closure with nonoverlapping suture lines
 Urinary tract drainage with a stent or catheter
 Surgeons should be familiar with a variety of techniques

VESICOENTERIC FISTULAE

Causes

This is the most common uroenteric fistula that surgeons and urologists treat. These fistulae usually occur in the setting of inflammatory bowel diseases such as diverticulitis and Crohn disease. Other causes include colorectal malignancy, radiation, trauma, pelvic abscesses, and iatrogenic surgical procedures. The underlying GI tract disorder determines the anatomic location of the fistula. Ileovesical fistulae are common in Crohn and colovesical fistulae are seen in diverticulitis or malignancies.¹

Incidence

Diverticulitis is the commonest cause^{1–3} and accounts for 65% to 70% of all cases. The peak incidence is between 55 and 65 years of age and it is estimated that 1% to 2% of patients with diverticulitis experience this. The underlying mechanism is a direct extension of ruptured diverticulum or erosion of a peridiverticular abscess into the bladder. The presence of a phlegmon and abscess are the risk factors for fistula formation. The second commonest cause is colorectal cancer, which accounts for 10% to 15% of fistulae. Crohn disease accounts for 5% to 6% of vesicoenteric fistulae and the incidence of enterovesical fistulae in patients with Crohn disease is 2% to 4%. The duration of Crohn disease before discovery of the fistula has been reported to be from 6 months to 15 years and in rare cases this can be the initial presentation of this

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