

Occult Ileovesical Fistula in a Patient Presenting With Squamous Cell Carcinoma of the Bladder: An Unusual Intraoperative Diagnosis

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ABSTRACT

Enterovesical fistulae are commonly caused by pathology related to the gastrointestinal tract such as colonic malignancy and inflammatory bowel disease. On rare occasions, an ileovesical fistula can develop due to a primary bladder neoplasm. Alternatively, a fistula may cause chronic bladder inflammation that leads to the development of squamous cell carcinoma. We report an unusual way of diagnosing an occult ileovesical fistula in a 61-year-old male. The patient presented with hematuria and urinary tract infection and histologically proven squamous cell carcinoma of the urinary bladder. Bladder irrigation-like fluid bypassing the endotracheal tube during transurethral resection of the bladder tumor was highly suspicious of an ileovesical fistula. A postoperative computed tomography scan confirmed the diagnosis. This is the first known case in the literature to report this type of intraoperative diagnosis of an ileovesical fistula.

KEYWORDS: Ileovesical fistula; Bladder; Squamous cell carcinoma; Enterovesical fistula

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Abbreviations and Acronyms

CT, computed tomography

INTRODUCTION

Occult ileovesical fistulae lead to a chronic inflammatory process in the bladder mucosa [1]. This can cause squamous cell metaplasia and increased susceptibility to developing squamous cell carcinoma of the bladder, which is rare when compared with transitional cell carcinoma. Therefore, the occurrence of such a rare bladder carcinoma secondary to an occult fistula is uncommon.

CASE REPORT

A 61-year-old male with chronic kidney disease and hypertension presented with anemia and weight loss. A computed tomography (CT) scan showed abnormal bladder appearances that were suggestive of infective or inflammatory pathology

with no other pathology. Subsequent rigid cystoscopy and biopsy showed only chronic inflammation and squamous metaplasia. His symptoms subsided after these investigations.

The patient returned 1 year later with hematuria and recurrent urinary tract infections. An ultrasound scan revealed a grossly thickened anterior bladder wall. Flexible cystoscopy showed a solid necrotic tumor that occupied more than 80% of the bladder wall.

Transurethral resection of the bladder tumor was planned due to ongoing hematuria. When the resectoscope was introduced and the bladder filled, clear fluid bypassed the endotracheal tube. The patient had no respiratory distress and his lungs were clear. A nasogastric tube confirmed

that fluid was coming from the stomach. This raised the suspicion of an ileovesical fistula that could not be seen during cystoscopy due to the extent of the tumor. A subsequent CT scan confirmed our intraoperative diagnosis. The patient had fistulous communication between an invasive T4 bladder tumor and a markedly thickened pelvic loop of small bowel. The distance between the fistulous tract and the stomach was approximately 4.35 meters. Biopsy revealed muscle-invasive squamous cell carcinoma with areas of necrosis and suspicious vascular invasion. The patient recovered well from surgery. Multidisciplinary discussion was planned to determine further management, but the patient developed a fatal pulmonary sepsis.

DISCUSSION

Enterovesical fistula secondary to various gastrointestinal and bladder conditions was first described by Rufus of Ephesus in second century AD. In 1888, Cripps [2] reiterated the concept of this rare complication.

Colovesical fistulae are by far the most common (~70%); only 15% are ileovesical [3]. The majority of these fistulae are caused by gastrointestinal pathology. Occult fistulae between the gastrointestinal tract and bladder are occasionally seen. In 100 cases of all types of enterovesical fistulae, Carson et al [4] reported that only 5% were due to urinary bladder carcinoma.

In developed countries, transitional cell carcinoma of the bladder is the most common histological type (90%). When bladder carcinoma occurs in a chronically inflamed bladder, histology can show squamous cell carcinoma. Its prevalence is 1% in the UK [5]. The majority of the squamous histological type of bladder cancer has poor prognosis due to its advanced stage at presentation.

Recurrent urinary tract infection is a frequent symptom of enterovesical fistulae, along with other pathognomonic features such as pneumaturia, fecaluria, and hematuria. The gold standard for diagnosis of enterovesical fistulae is the CT scan, which has a diagnostic rate of over 80%. Cystoscopy and retrograde cystography are also useful, as indicated by a 77% to 79% cystoscopy diagnostic rate [4]. The use of the CT scan in the diagnosis of such fistulae has some advantages over a cystoscopic examination. CT delineates the fistula's tract and gives details on the extent of the pathological process with accurate anatomical relations. It also provides staging information, which is useful in planning subsequent management.

A search of English, French, and Spanish language literature

using PubMed and Medline (U.S. National Library of Medicine) during the period from 1980 to 2010 was performed. The keywords consisted of (*occult ileovesical fistula, bladder, squamous cell carcinoma, and enterovesical fistula*). This search revealed few cases of ileovesical fistula, with 1 secondary to squamous cell carcinoma of the bladder [6]. The present is the first known case in the literature with a rare fistula between the bladder and upper gastrointestinal tract that was diagnosed by an unusual intraoperative finding.

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