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Colovesical Fistula Repair: Is Early Foley Catheter Removal Safe?[1]

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Background. **Colovesical fistula (CVF) are the most common occurring fistulae secondary to diverticulitis. Review of the literature reveals great variability in postoperative Foley catheter management, as well as the role of a cystogram. The purpose of this study was to review our experience in early vs. late removal of the Foley catheter after CVF repair secondary to diverticulitis. Our hypothesis was that early Foley catheter removal is not associated with increased complications, and postoperative cystogram is of low value.**

Methods. **This is a retrospective study (January 2002–March 2008) of all patients with a diagnosis of CVF secondary to diverticulitis, who were treated with a sigmoidectomy and takedown of the fistula. Hospital records were reviewed and demographics, days to Foley removal, performance of cystogram, type of repair, complications, and comorbidities were recorded. Patients were separated into two groups according to early or late Foley catheter removal. Removal of the Foley catheter in ≤7 d was considered early, and removal in >7d was considered late.**

Results. **Thirty-two patients were identified, with a mean age of 65.2 y (42–91). Mean duration of Foley catheter stay was 15.6 d (3–42). Six patients had early postoperative Foley catheter removal and 26 patients had late Foley catheter removal. Four patients had complex bladder repair, and they all had late Foley catheter removal. From the 28 patients with simple bladder repair, six had early removal and 22 had late removal. Patients with early Foley catheter removal did not have significant complications compared with patients with late Foley catheter removal. Eleven patients got a cystogram postoperatively to detect possible bladder leaks. All cystograms performed were negative.**

Conclusions. **Patients with a diagnosis of CVF secondary to diverticulitis may have their Foley catheter removed in 7 d without any increased complications. The role of the cystogram is unclear; however, no value was added in simple bladder repairs.**

Key Words: **colovesicular fistula; diverticulitis; Foley catheter.**

INTRODUCTION

Colovesical fistulas (CVF) represent a rare but challenging complication in patients with colonic disease. Although diagnosis and operative management are well-established, there are no widely accepted guidelines for postoperative Foley catheter management of CVFs.

Diverticulitis is the most common cause of CVFs. The incidence of CVFs in patients with diverticulitis is approximately 1% [1]. The goals for successful treatment are adequate nutrition, elimination of infection, unobstructed urinary tract drainage or stenting, removal or bypass of distal urinary tract obstruction, and exclusion of possible malignant etiology of the fistula. Although several surgical management strategies have been proposed, the standard surgical approach is colectomy with takedown of the fistulous tract, primary colorectal anastomosis, and closure of vesicular tract [2, 3, 4, 5, 6]. Postoperative management of CVF repair secondary to diverticulitis is not well established. Foley catheter drainage is routinely used after the operation, but the timing of catheter removal varies significantly.

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Moreover, the value of a cystogram to rule out possible bladder leaks postoperatively is questionable.

There has been mounting evidence that Foley catheter removal early in other types of bladder repairs, from trauma [7] to ureteral reimplantation [8], poses no risk to the patient. Traditionally, Foley catheters have been left indwelling for 2 wk [9], and at times longer, risking urinary infection, increasing discomfort, and possibly prolonging hospital stay. Some authors have divided repairs into simple and complex, in order to better stratify these groups [7]. Simple repairs do not involve the trigone, the triangular region of the internal urinary bladder formed by the two ureteral orifices and the internal urethral orifice. The purpose of our study was to examine our approach to Foley catheter management after repair of CVF secondary to diverticulitis. We present our institution's experience with CVF repair secondary to diverticulitis. Our hypothesis is that in patients with simple bladder repair, early postoperative Foley catheter removal is not associated with increased complications. We also propose that the postoperative cystogram is of little value.

METHODS

Patients with the diagnosis of CVF secondary to diverticulitis were identified by discharge diagnosis over a period ranging from January 1996 through June 2008 at the Massachusetts General Hospital. The demographic, surgical treatment, postoperative management information, and comorbidities were recorded. Bladder repair was classified as simple or complex. Patients were separated into two groups according to duration of postoperative Foley catheterization. A Foley catheter length of stay $\leq$7 d was characterized as early and a Foley catheter length of stay >7 d was characterized as late. Performance of a cystogram to rule out possible bladder leaks was reviewed, and the findings of the cystogram were recorded. Bladder related complications were recorded in each group. This study was approved by the Institutional Review Board at our institution. Statistical analysis was performed using Student's t-test. Statistical significance was set at $P < 0.05$.

RESULTS

Ninety-five patients with a diagnosis of CVF secondary to diverticulitis were identified, and 45 patients were reviewed, as 50 patients had incomplete records (Fig. 1). The mean age was 64.4 (36–91) y. Sixty-seven patients were male, and 57 (60%) patients had concomitant heart disease, 14 (14.74%) had chronic obstructive pulmonary disease, 10 (10.53%) had diabetes mellitus, and 11 (11.58%) were immunosuppressed (on steroids or transplantation). Thirty-one patients were treated with simple and 14 patients were treated with complex bladder repair. Foley catheters were left in place a mean of 13.2 (3–42) d. Fifteen patients had early and 30 patients had late Foley catheter removal. Among the 37 patients with simple bladder repair, 13 had early and 24 had late removal. Six bladder-related complications were recorded in the late Foley catheter removal group, including urinary tract infections, 5 (21%), and urine retention, 1(4%). One bladder related complication (8%) was recorded in the early Foley catheter removal group, which was a urinary tract infection. This difference was not statistically significant ($P = 0.395$).

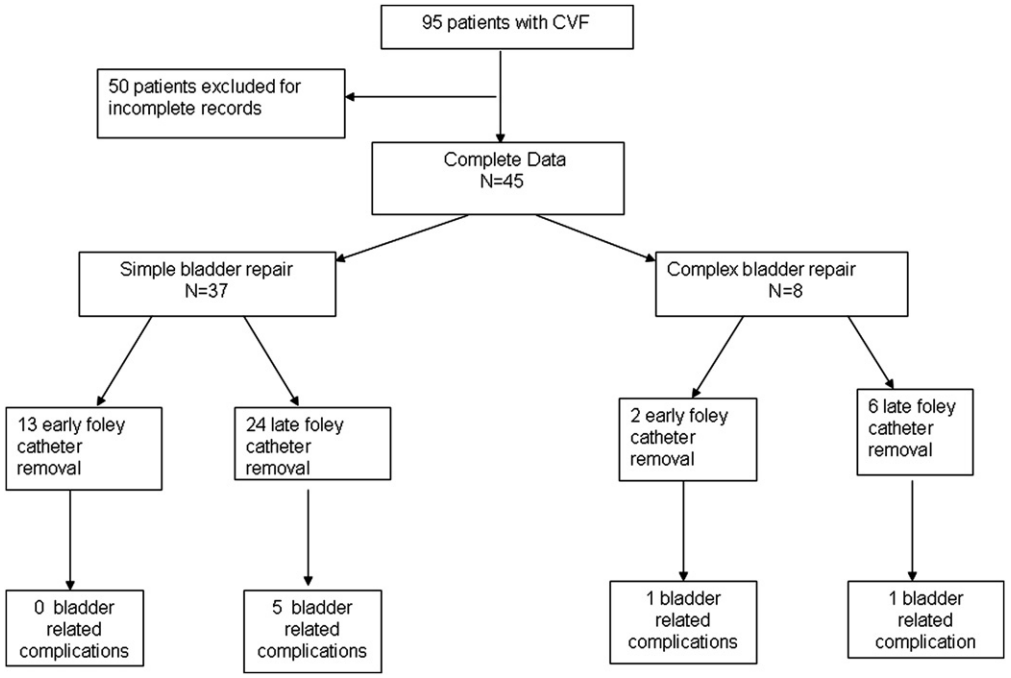

FIG. 1. Study consort diagram.