Ureteroenteric Strictures After Open Radical Cystectomy and Urinary Diversion: The University of Southern California Experience

Swar H. Shah, Kamran Movassaghi, Donald Skinner, Leonard Dalag, Gus Miranda, Jie Cai, Anne Schuckman, Siamak Daneshmand, and Hooman Djaladat

OBJECTIVE To evaluate the risk factors, management, and outcomes of benign ureteroenteric strictures (UES) in patients undergoing open radical cystectomy (RC) and urinary diversion for urothelial bladder carcinoma.

MATERIALS AND METHODS Using our institutional review board–approved institutional bladder cancer database, we identified 1964 patients who underwent RC for urothelial bladder carcinoma between 1971 and 2008. Patients underwent a uniform refluxing ureteroenteric anastomosis technique to ileum. In patients with UES, we reviewed clinicopathologic, management, and outcome variables. A multivariate logistic regression model was used to identify independent UES predictors.

RESULTS Forty-nine patients and 51 renal units were retrospectively identified with benign UES (2.6%). Median follow-up was 12.4 years (0.2-27.3 years) and median time from RC to UES diagnosis was 10 months (2 months-10 years). Although one-third were asymptomatic, common presentations included flank pain (22%) and urinary tract infection (9%). Thirty-one patients underwent primary endoscopic treatments, including dilatation and stenting, of whom, 13 patients (42%) underwent secondary endoscopic treatment and 9 patients (29%) underwent open revision. Three patients underwent primary open management. Median glomerular filtration rate did not change after management (49-48 mL/min); however, imaging showed improvement in 50% of cases. A multivariate logistic regression model revealed no association with age, body mass index, Charlson comorbidity index, perioperative radiation or chemotherapy, or preoperative serum albumin in predicting UES.

CONCLUSION Benign UES are uncommon after RC and urinary diversion using a consistent meticulous surgical approach. More commonly on the left, UES generally present a few months after RC. Although no specific predisposing factor was determined, surgical technique plays an important role. UROLOGY 86: 87–91, 2015. © 2015 Elsevier Inc.

Bladder cancer continues to be one of the most common malignancies in the United States. In 2014, a projected 74,690 men and women will be diagnosed with bladder cancer.[1,2] In muscle-invasive bladder cancer, the gold standard treatment approach remains radical cystectomy (RC). Although performed more routinely, RC continues to be associated with significant morbidity.

All modern types of urinary diversion (UD) performed after RC involve anastomosing the ureters to a segment of bowel, typically the ileum. Large contemporary series have shown that the ureteroenteric anastomosis is at risk of developing strictures (ureteroenteric strictures [UES]), with rates ranging from 2.7% to 10% in high-volume centers and median time to diagnosis of 7-18 months after surgery.[2-9] Ureteral ischemia, inflammation secondary to excessive dissection, and handling of the ureters may lead to scarring at the anastomosis, increasing the risk of clinically evident strictures.[4,10] Although patients with UES are typically asymptomatic and diagnosed based on changes in renal function, they may present with symptomatic obstruction, infection, or stones.[3-5]

As UES are one of the few postoperative complications that often necessitates an open surgical repair,[11] care should be taken to analyze potential methods to reduce stricture rates. Herein, we analyze the incidence and risk factors, as well as the role of surgical technique, for management of UES in a large series of open RC.

Financial Disclosure: *The authors declare that they have no relevant financial interests.*

From the USC Institute of Urology, USC/Norris Comprehensive Cancer Center, Los Angeles, CA

Address correspondence to: Hooman Djaladat, M.D., M.S., USC Institute of Urology, USC/Norris Comprehensive Cancer Center, University of Southern California, 1441 Eastlake Avenue, Suite 7416, Los Angeles, CA 90089. E-mail: djaladat@med.usc.edu

Submitted: March 4, 2015, accepted (with revisions): March 17, 2015

© 2015 Elsevier Inc.
All Rights Reserved

http://dx.doi.org/10.1016/j.urology.2015.03.014
0090-4295/15

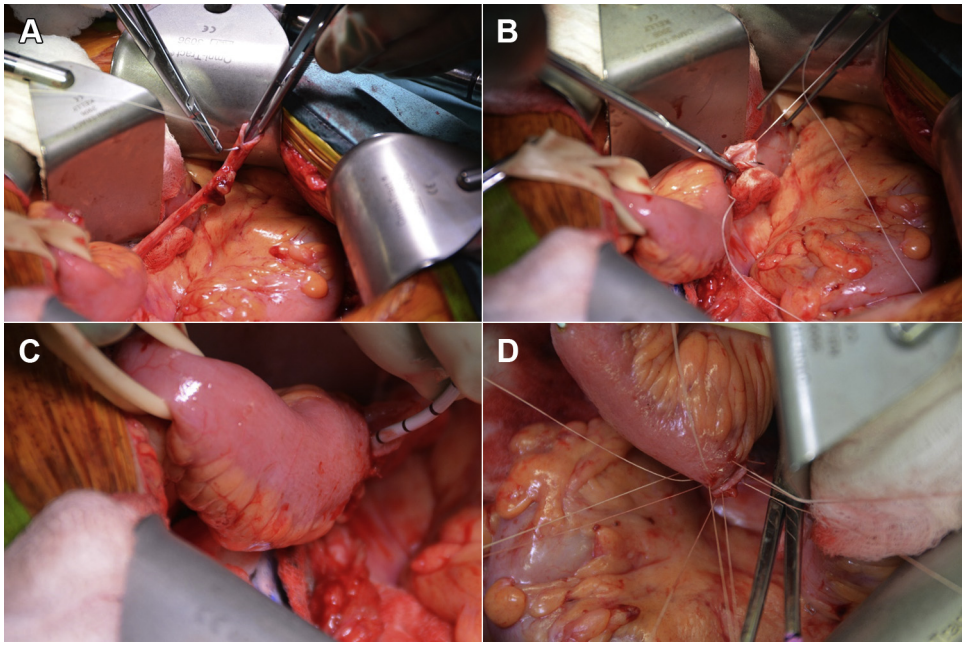

Figure 1. **(A)** The no-touch technique was used to perform the ureteroileal anastomosis. **(B)** All sutures were of full thickness. **(C)** The ureteroileal anastomosis was stented halfway through placement of the sutures. **(D)** The interrupted stitches were meticulously and evenly placed.

MATERIALS AND METHODS

We used our prospectively maintained, institutional review board–approved, bladder cancer database to identify all patients who underwent RC for muscle-invasive or high-risk non–muscle-invasive urothelial bladder carcinoma at our institution between 1971 and 2008. The database manager maintains and provides accurate follow-up data regarding the database. All cystectomy cases are entered at 4 months after cystectomy, ensuring the capture of operative, 30-, and 90-day complications, as well as adjuvant chemotherapy data. Data are captured from institutional progress notes and/or community-based records. Patients are then followed up annually for the first 5 years and then biennially thereafter.

Eight surgeons, all fellowship trained by the same mentor (D.S.), were included in the analysis. All ureteroenteric anastomoses were performed consistently using the Bricker technique, emphasizing a refluxing, end-to-side, widely spatulated anastomosis, most of which were stented (Fig. 1).[4,12] All surgeons homogeneously used interrupted 4-0 polyglycolic acid suture for the anastomosis.

Most patients (61.2%) underwent orthotopic UD, unless contraindicated (not willing to catheterize if needed, renal or liver insufficiency, or urethral cancer). Heterotopic diversions included either continent cutaneous UDs (19%) or ileal conduits (19.8%). Follow-up for patients undergoing RC at University of Southern California includes an initial postoperative visit 7-10 days after discharge and again at 3 weeks for catheter and stent removal. Patients undergo routine imaging with computerized tomography and/or ultrasound every 4 months postoperatively till 1-2 years and then every 6 months for 1-2 years, and annually thereafter.

Patients with evidence of hydronephrosis underwent further evaluation, typically with a loopogram, cystogram, diuretic renogram, and/or antegrade nephrostogram. Patients who showed asymptomatic or symptomatic signs of hydronephrosis with radiographic evidence of obstruction at the ureteroenteric anastomosis, or patients who underwent treatment for obstruction (percutaneous nephrostomy or surgical revision of the ureteroenteric anastomosis) were considered to have UES. Times to diagnosis and treatment type were recorded. Estimated glomerular filtration rate (eGFR) was calculated using the Modification of Diet in Renal Disease equation. Patient comorbidity was assessed using the Charlson Comorbidity Index. Postoperative complications were categorized according to the Clavien-Dindo Complication Classification system.[13]

Categorical and continuous variables were compared using chi-square and independent *t* tests, respectively. Univariate and multivariate regression analyses, using the Kruskal-Wallis test and linear regression models, were used to evaluate associations between strictures and patient characteristics and clinicopathologic factors. A P value $<.05$ was considered significant. Statistical software package SAS, version 9.2 (SAS Institute, Inc., Cary, NC), was used to perform the analysis.

RESULTS

We identified 1964 patients who were treated with RC for urothelial bladder carcinoma. We retrospectively identified 49 patients and 51 renal units with benign UES (2.6%). Their clinicopathologic characteristics are summarized in Table 1. Of those diagnosed with UES, 28 (57%) received orthotopic neobladders, 14 (28%) received continent cutaneous diversions, and 7 (15%) received ileal conduits. All ureteroenteric anastomoses were of the Bricker refluxing type to ileum. Median follow-up was 12.4 years (0.2-27.3 years), with 92% minimum 3-year follow-up.

Median time from cystectomy to stricture diagnosis was 10 months (range, 2 months-10 years). Thirty percent of patients were asymptomatic, with common clinical

Download English Version:

https://daneshyari.com/en/article/3898499

Download Persian Version:

https://daneshyari.com/article/3898499

Daneshyari.com