

## ENDOUROLOGY & LAPAROSCOPY

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### **Laparoscopic radical cystectomy and extracorporeal urinary diversion: a single center experience of 48 cases with three years of follow-up**

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**Objectives:** To report our experience with laparoscopic radical cystectomy and extracorporeal urinary diversion for high-grade muscle invasive bladder cancer in a consecutive series of 48 patients with 3 years of follow-up. **Methods:** From June 1999 to April 2006, 48 patients (42 men and 6 women; mean age 59 years, range 24 to 80) with bladder cancer underwent laparoscopic radical cystectomy and bilateral pelvic lymph node dissection at our institution. Urinary diversion was done extracorporeally through the specimen extraction incision.

**Results:** The mean operating time was 310 minutes, and the mean blood loss was 456 mL. In 1 patient, conversion to open surgery was required because of severe hypercarbia. Three major complications were observed intraoperatively (rectal injury in 2 and external iliac vein injury in 1 patient). However, all these complications were managed laparoscopically, with completion of the procedure laparoscopically. The mean hospital stay was 10.2 days (range 7 to 25). One patient died in the postoperative period of severe lower respiratory tract infection and septicemia. Histologic examination showed organ-confined tumors (Stage pT1/pT2/pT3a) in 34 patients (71%) and extravesical disease (pT3b/pT4) in 14 (29%). Of the 48 patients, 12 (25%) had lymph node involvement. The mean number of nodes removed was 14 (range 4 to 24). At a mean follow-up period of 38 months (range 10 to 72), 35 patients were alive with no evidence of disease (disease-free survival rate 73%). **Conclusions:** The results of our study have shown that laparoscopic radical cystectomy is a safe, feasible, and effective alternative to open radical cystectomy. Extracorporeal urinary diversion through a small incision decreases the operating time, while maintaining the benefits of laparoscopic surgery. The 3-year oncologic efficacy was comparable to that of open radical cystectomy.

### **Editorial Comment**

The advantage of decreased blood loss provided by laparoscopy seems to be a major beneficial aspect of this approach compared to open surgery. This could be due to the insufflation, as well as, magnified vision that can provide better exposure of the anterior retropubic and posterior retrovesical dissection fields facilitating hemostasis.

Another major advantage of laparoscopy in radical cystectomy is the smaller skin incision to remove the bladder without prolonged overstretching of the tissues, possibly decreasing postoperative pain.

Controversy exists on whether urinary diversion should be performed intracorporeally or extracorporeally. Although the feasibility of total intracorporeal urinary diversion has been reported, it has been associated with prolonged operative times and prolonged anesthesia time may negate the benefits of laparoscopy. Moreover, prolonged operating time has also been associated with significant surgeon fatigue and increased cost of the procedure. In summary, this paper demonstrates the feasibility of the procedure but longer clinical follow-up is needed to validate the oncological outcomes of laparoscopic radical cystoprostatectomy in the treatment of localized invasive bladder cancer.

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### **Laparoscopic renal oncological surgery in the presence of abdominal aortic and vena caval pathology: 8-year experience**

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**Purpose:** To our knowledge the outcomes of laparoscopic renal oncological surgery in patients with major aortic and/or inferior vena caval pathology are unknown. We present our experience spanning an 8-year period.

**Materials and Methods:** From March 1998 to October 2006, 1,826 laparoscopic renal procedures were performed for tumor. Of these patients 66 (3.6%) had major abdominal aortic or vena caval pathology concomitantly. Demographics, specific entities of the vascular disease, and intraoperative and postoperative data were reviewed. **Results:** A total of 66 patients had a history of abdominal aortic disease (54), vena caval disease (9) or both (3). Of the patients 85% had 3 or greater comorbidities, 88% had an American Society of Anesthesiologists score of 3 or greater and 88% were on chronic anticoagulation therapy. A total of 27 patients (41%) had undergone prior surgical treatment for vascular pathology. Laparoscopic renal surgery, which was transperitoneal in 25 cases and retroperitoneal in 41, included radical nephrectomy in 20, partial nephrectomy in 17 and cryoablation in 29. Open conversion was performed in 3 patients (5%). There were 3 intraoperative (5%) and 9 postoperative (14%) complications. One patient died of pulmonary sepsis. There was no statistically significant difference in perioperative outcomes between the aortic and vena caval disease groups. The retroperitoneal approach was associated with less blood loss and shorter operative time ( $p = 0.0003$  and  $0.004$ , respectively).

**Conclusions:** Laparoscopic surgery for renal tumor in the presence of aortic or vena caval disease is safe and feasible. Considerable prior laparoscopic experience is necessary when treating these patients at high risk.

### **Editorial Comment**

Since the first report of laparoscopic surgery in urology by Clayman et. al. in 1991, the development of new laparoscopic procedures has been steadily increasing, as well as, the complexity of patients' co-morbidity and surgical techniques. The authors demonstrate that patients with severe major vascular pathology may undergo laparoscopic surgery with insufflation of the abdomen without causing immediate conversion to open surgery. In this series, intraoperative parameters, such as blood loss, ORT, the conversion rate and the complication

rate, were comparable to those in other reported series. The results indicate that laparoscopic renal procedures are safe in patients with aortic and/or vena cava disease, and the type of major vessel disease did not have an impact on the laparoscopic procedure. Moreover, laparoscopic procedure difficulty was not increased in patients with a vena cava filter.

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