ENDOUROLOGY & LAPAROSCOPY

Complications of Laparoscopic Surgery for Urological Cancer: A Single Institution Analysis

Colombo JR Jr, Haber GP, Jelovsek JE, Nguyen M, Fergany A, Desai MM, Kaouk JH, Gill IS
Section of Laparoscopic and Robotic Surgery, Glickman Urological Institute, Cleveland Clinic, Cleveland, Ohio
J Urol. 2007; 178:786-91

Purpose: We determined the incidence of and risk factors for perioperative complications associated with laparoscopic oncological surgery for urological malignancy.
Materials and Methods: All records of patients undergoing laparoscopic surgery for urological malignancy at a tertiary care institution from April 1997 through January 2006 were reviewed. Relevant demographic and perioperative data during and within 6 weeks of surgery were evaluated retrospectively. Various factors were analyzed to estimate risk of a perioperative complication such as the Charlson Comorbidity Index, American Society of Anesthesiologists score, European Scoring System for laparoscopic urological operations and surgeon experience. Logistic regression was used to identify independent risk factors for perioperative complications.
Results: A total of 1,867 laparoscopic oncological surgeries were performed, including radical or partial nephrectomy, nephroureterectomy, radical prostatectomy and radical cystectomy. Perioperative complications occurred in 12.4% of patients, including 3.5% intraoperatively and 8.9% postoperatively. Intraoperative (2.3%) and postoperative hemorrhage (2.7%) accounted for 40% of all perioperative complications. All cause perioperative mortality occurred in 8 patients (0.4%). On multivariate analysis radical cystectomy (adjusted OR 4.9, $p < 0.001$), partial nephrectomy (adjusted OR 2.4, $p < 0.001$), length of surgery greater than 4 hours (adjusted OR 2.5, $p < 0.001$) and preoperative serum creatinine greater than 1.5 mg/dL (adjusted OR 2.1, $p = 0.04$) were independent risk factors for perioperative complications. Comparing the periods of 1997 to 2000 vs. 2001 to 2005, despite a significant increase in technical complexity of procedures (European Scoring System 9.8 vs. 60.6, $p < 0.001$), the incidence of complications tended to decrease (17.3% vs. 12.5%, $p = 0.3$).
Conclusions: In appropriately selected patients laparoscopic urological oncological surgery is safe. These data on perioperative complications could possibly serve as a reference benchmark for practicing urologists.

Editorial Comment

Since the first laparoscopic surgery in urology was performed in 1990, questions about the efficiency and safety of this minimally invasive technique have been challenged, particularly in the urological oncologic field. The strength of this manuscript is the large experience with complex oncological procedures performed laparoscopically in a single institution. The complication rates are comparable to open technique even when the complexity of the cases increased. The authors should be congratulated for the improvement of minimally invasive surgery in Urological oncology benefiting patients with good clinical outcome.

Dr. Fernando J. Kim
Chief of Urology, Denver Health Med Ctr
Assistant Professor, Univ Colorado Health Sci Ctr
Denver, Colorado, USA
E-mail: fernando.kim@uchsc.edu

Imperative Indications for Conservative Management of Upper Tract Transitional Cell Carcinoma

Krambeck AE, Thompson RH, Lohse CM, Patterson DE, Elliott DS, Blute ML
Departments of Urology and Health Sciences Research, Mayo Medical School and Mayo Clinic, Rochester, Minnesota

J Urol. 2007; 178:792-7

Purpose: We report our experience with patients with imperative indications for endoscopic treatment for upper tract transitional cell carcinoma.
Materials and Methods: Between 1983 and 2004 we identified 37 patients with a solitary kidney, bilateral disease or preoperative creatinine greater than 2.0 mg/dL who underwent endoscopic treatment for localized upper tract transitional cell carcinoma. A retrospective chart review was performed.
Results: Of the 37 patients 32 had a solitary kidney, 3 had bilateral disease and 2 had preoperative creatinine greater than 2.0 mg/dL. Median age at diagnosis was 75 years (range 56 to 88). Bladder cytology was positive or atypical in 15 of 31 patients (48%). Tumors were grade 1 to 3 in 2, 13 and 7 patients, respectively, and diagnosed visually in 15. At a median followup of 2.7 years for survivors 23 patients (62%) had a total of 56 upper tract transitional cell carcinoma recurrences. Grade and stage progression occurred in 3 and 3 patients, respectively. Ten of the 23 patients who experienced upper tract recurrence died of transitional cell carcinoma. Overall kidney preservation was achieved in 24 of the 32 patients (75%) with a solitary kidney. At last followup 24 patients had died, including 11 (29.7%) of transitional cell carcinoma, at a median of 2.9 years. Cancer specific survival at 5 years for this cohort was 49.3%.
Conclusions: Our results indicate that upper tract tumor recurrence occurs in a majority of patients with imperative indications for endoscopic treatment, underscoring the need for frequent surveillance. While most kidneys can be preserved, cancer specific death is common.

Editorial Comment

Transitional Cell Carcinoma (TCC) of the Upper Tract is one of the most challenges diseases, especially when involves solitary kidneys. The development of digital imaging may have improved the diagnosis of the TCC in the upper tract, as well as, the treatment of small burden disease with laser technology. The treatment of adjuvant intra-collecting system therapy with BCG or other agents was not expanded in this article due to the small number of patients. It will be helpful to establish a multi-center trial to define the role of conservative endoscopic therapy with adjuvant intra-collecting system chemotherapy agents for upper tract TCC.

Dr. Fernando J. Kim
Chief of Urology, Denver Health Med Ctr
Assistant Professor, Univ Colorado Health Sci Ctr
Denver, Colorado, USA
E-mail: fernando.kim@uchsc.edu

IMAGING

Comparison of Effective Radiation Doses in Patients Undergoing Unenhanced MDCT and Excretory Urography for Acute Flank Pain

Eikefjord EN, Thorsen F, Rorvik J
Department of Radiology, Haukeland University Hospital, Bergen, Norway

AJR Am J Roentgenol. 2007; 188:934-9