

Purpose: To determine the accuracy of urinary dipstick testing for pH manipulation therapy.

Materials and Methods: Three commercial brands of dipstick paper were used to measure the pH of 100 fresh urine specimens from patients with urologic diseases. These were all read by an experienced medical technician. The pH of these specimens was also measured with an electrochemical pH meter (“gold standard”) performed by another experienced technician. Both were blinded to each other’s results. The influence of urinary microscopic findings was also assessed. Student t test and analysis of variance were used to analyze the data.

Results: The accuracies of the dipsticks for determining pH were as follows: 54.8% to 92.8% for less than 6, 45% to 97.5% for 6 to 7, 72.2% to 83.3% for greater than 7. One of the dipsticks assessed had the lowest accuracy for all three ranges. There was a statistically significant difference between the performances of the other two as compared with the least accurate one. There were no statistically significant differences between the two more accurate dipsticks. Urinary microscopic findings and other dipstick results did not influence results.

Conclusion: The targeted pH range for urinary pH manipulation therapy is 6 to 7. These results indicate that dipstick testing may be applicable to monitor patients on pH manipulation therapy and modify treatment when necessary. The accuracy of the device used for this purpose, however, must be determined before use.

Editorial Comment

The authors conducted a well-designed and elegant evaluation of an important question that impacts clinical practice. This study evaluated trained medical technicians - it would be critical to evaluate the ability of the patient to correctly read the urine pH using a dipstick, as this strategy is best suited for home-monitoring. Monitoring pH levels over 7 is of particular importance to avoid increasing the risk of calcium phosphate crystallization, and as such, the litmus paper proved superior in this regard. Similarly, the litmus paper was most accurate at providing “positive feedback” in the face of a therapeutic pH of 6-7. The authors plan to evaluate a handheld pH meter accurate to within 0.1 pH units for home therapy that costs less than \$100. The authors recommend checking the urinary pH three times a day during initial titration of therapy.

Dr. Manoj Monga

Professor, Department of Urology

University of Minnesota

Edina, Minnesota, USA

E-mail: endourol@yahoo.com

ENDOUROLOGY & LAPAROSCOPY

Risk score and metastasectomy independently impact prognosis of patients with recurrent renal cell carcinoma

Eggener SE, Yossepowitch O, Kundu S, Motzer RJ, Russo P.

Department of Urology and Division of Solid Tumor Oncology, Memorial Sloan-Kettering Cancer Center, New York, New York, USA

J Urol. 2008; 180: 873-8; discussion 878

Purpose: We evaluated the prognostic roles of metastasectomy and an established risk stratification system in patients with disease recurrence following nephrectomy for nonmetastatic renal cell carcinoma.

Materials and Methods: A retrospective analysis was performed in 129 patients with localized renal cell carcinoma treated with partial or radical nephrectomy and subsequently diagnosed with disease recurrence. At

recurrence a previously validated risk score based on Karnofsky performance status, interval from nephrectomy, and serum hemoglobin, calcium and lactate dehydrogenase was used to categorize patients as being at favorable, intermediate or poor risk. Survival from time of recurrence was assessed based on risk categorization and metastasectomy.

Results: Median time from nephrectomy to recurrence was 16 months. The risk score was strongly associated with median survival and the 2-year survival rate, including 73 months and 81% for favorable risk, 28 months and 54% for intermediate risk, and 6 months and 11% for poor risk, respectively (log rank < 0.001). Metastasectomy performed in 44 patients (34%) was found to be of clinical benefit across the various risk categories (interaction analysis $p = 0.8$). On multivariate analysis a better risk category and metastasectomy were each independently associated with more favorable survival (each $p < 0.001$). When combined, they provided 6 risk categories with an estimated 2-year survival of 0% to 93%.

Conclusions: The clinical course in patients with recurrent renal cell carcinoma following nephrectomy can be variable. It is independently impacted by an objectively determined risk score and whether the patient undergoes metastasectomy.

Editorial Comment

This retrospective study demonstrated prognostic roles of metastasectomy and an established risk stratification system in patients with disease recurrence following nephrectomy for nonmetastatic renal cell carcinoma.

Although the metastasectomy may improve survival in the favorable group, the limitations of this retrospective study still do not answer all the questions for the less favorable group of patients.

With the advent of new targeted therapy drugs and better stratification of these patients it is possible that we will improve the lives of these patients.

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

Conversion during laparoscopic surgery: frequency, indications and risk factors

Richstone L, Seideman C, Baldinger L, Permpongkosol S, Jarrett TW, Su LM, Pavlovich C, Kavoussi LR

North Shore-Long Island Jewish Health System, New Hyde Park, New York, USA

J Urol. 2008; 180: 855-9

Purpose: There are limited data on the indications for open conversion during laparoscopic surgery. The frequency of conversion for various procedures is poorly quantified and the degree to which this changes with time is not well understood. Risk factors for conversion are not defined. We addressed these issues in a large series of laparoscopic operations.

Materials and Methods: We reviewed our database of 2,128 laparoscopic operations performed between 1993 and 2005, including radical nephrectomy in 549 patients, simple nephrectomy in 186, partial nephrectomy in 347, donor nephrectomy in 553, pyeloplasty in 301, nephroureterectomy in 106 and retroperitoneal lymph node dissection in 86. Open conversions were identified and the frequency of conversion for the total cohort and specific procedures was determined. Trends in conversion with time were assessed and indications analyzed.

Clinicopathological features between patients requiring conversion and those who did not were compared. Results: We identified 68 patients (3.3%) who underwent conversion to open surgery (group 1) and 2,011 (96.7%) who did not (group 2). The frequency of conversion was greatest during nephroureterectomy (8.49%), followed by simple nephrectomy (5.91%), retroperitoneal lymph node dissection (4.65%), partial nephrectomy (4.32%), radical nephrectomy (2.91%), donor nephrectomy (2.53%) and pyeloplasty (0.33%). The absolute number of conversions and conversions/cases performed per year decreased significantly with time, reaching a nadir of less than 1% per year. Conversion was inversely related to case volume and cumulative experience. Indications included vascular injury in 38.5% of cases, concern with margins in 13.5%, bowel injury in 13.5%, failure to progress in 11.5%, adhesions in 9.6%, diaphragmatic injury in 1.9% and other in 11.5%. The distribution of indications remained similar with time. There were no differences in patient age, gender, surgical history, American Society of Anesthesiologists score or tumor stage between groups 1 and 2. In groups 1 and 2 mean operative time was 304 vs. 219 minutes and estimated blood loss was 904 vs. 255 cc (each $p < 0.0001$).

Conclusions: The rate of conversion during laparoscopic surgery is not uniform across procedures and it is important for patient counseling. The most common indication for conversion is vascular injury. Importantly the frequency of conversion is dynamic and likely related to case volume and cumulative experience.

Editorial Comment

Conversion of laparoscopic to open surgery is not a complication in my view.

The escalation of surgical technique during a difficult case may provide the safe outcome desired for the patient. This large series of laparoscopic cases demonstrate that the vascular injuries are responsible for the majority of the conversions. The longer the clinical experience the rate of conversion tends to decrease even in complex cases. The authors ought to be congratulated to demonstrate that conversion is beneficial for the well being of the patient encouraging novice surgeons to perform it when suited.

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

Development of renal scars on CT after abdominal trauma: does grade of injury matter?

Dunfee BL, Lucey BC, Soto JA

*Department of Radiology, Division of Body Imaging, Boston University Medical Center, Boston, MA, USA
AJR Am J Roentgenol. 2008; 190: 1174-9*

Objective: The objective of our study was to determine whether there is an association between the grade of a traumatic renal injury and the subsequent development of renal parenchymal scars on CT.

Materials and Methods: We performed a retrospective study encompassing all acute trauma patients admitted to our institution over a 42-month period found to have renal parenchyma injuries on initial MDCT and also to have undergone a follow-up CT performed at least 1 month after trauma. We identified 54 patients who sustained blunt ($n = 44$) or penetrating ($n = 10$) abdominal trauma. The renal injuries were graded by two