

comparable to LRN. Renal outcomes are superior after LPN indicating functional preservation compared to LRN. Given our recent further decrease in warm ischemia times during LPN to 14 minutes (J Urol, in press February 2008), improved renal functional outcomes following LPN can be anticipated in the future.

**Source of Funding:** None

## 1282

### ANALYSIS OF COMPLICATIONS IN A LAPAROSCOPIC UROLOGICAL CENTRE: TREND AND EXPERIENCE OF A SINGLE SURGEON AFTER 1100 PROCEDURES

*Francesco Porpiglia\*, Alessandro Volpe, Michele Billia, Roberto Tarabuzzi, Carlo Terrone, Ivano Morra, Marco Cossu, Roberto M Scarpa. Torino, Italy.*

**INTRODUCTION AND OBJECTIVE:** Laparoscopic procedures require a steep learning curve. The diffusion of the laparoscopic technique and the progressive development of experience encouraged urologists to select even more difficult cases. Therefore, in centres where advanced laparoscopy is routinely performed, the number of complications may increase. Aim of this retrospective study was to analyse all complications of the laparoscopic procedures performed from 1996 at our centre by a single surgeon in order to evaluate the safety of the technique.

**METHODS:** From January 1996 to June 2007, 1,100 laparoscopic procedures were performed at our centre by a single surgeon: 195 adrenalectomies, 125 radical nephrectomies, 100 partial nephrectomies, 26 nephroureterectomies, 70 pyeloplasties, 50 simple prostatectomies Millin, 320 radical prostatectomies, 30 bladder diverticulectomies, 34 radical cystectomies and 150 other procedures (simple nephrectomy, pelvic and retroperitoneal lymphadenectomy, etc). Data of all patients were recorded in a database. All medical and surgical complications recorded were stratified according to the procedure performed and classified in five levels according to the Dindo's classification, which is based on the severity and on the treatment required. Procedure-related deaths are defined as events occurred during the hospital stay or within 7 days from the discharge. A statistical analysis was carried out in order to evaluate the correlation between procedures and complications.

**RESULTS:** We recorded 188 complications (18.8%). Complication rates stratified by procedure were: radical prostatectomy (35.2%), partial nephrectomy (23%), radical cystectomy (20.5%), nephroureterectomy (19.2%), adrenalectomy (5.7%), radical nephrectomy (4.8%). 150 complications did not require any treatment or were manageable with medical therapy (grade I-II) (15%). 38 complications (3.8%) needed surgical, endoscopic or radiological treatment (grade III). Conversion to open surgery was needed in 0.57% of cases (6/1106). Grade I-II complications were significantly more frequent than grade III complications for all procedures. We recorded 5 life threatening complications requiring intensive care management (grade IV). Only 2 patients (0.2%) died during the postoperative stay (grade V).

**CONCLUSIONS:** In our experience laparoscopy is a safe technique. Most complications are low grade and do not require invasive treatment.

**Source of Funding:** None

## 1283

### INCIDENCE OF CLINICAL AND SUBCLINICAL RHABDOMYOLYSIS DURING LAPAROSCOPIC, HAND-ASSISTED LAPAROSCOPIC, AND ROBOTIC UROLOGIC SURGERY

*Rajiv Gupta, Robert R Torrey\*, Marc W McAllister, Kamyar Ebrahimi, D Duane Baldwin. Loma Linda, CA.*

**INTRODUCTION AND OBJECTIVE:** Rhabdomyolysis (RM) is a known cause of acute renal failure following laparoscopic surgery. Subclinical RM is defined as an elevated creatine kinase level (CK)  $\geq$  4-5x normal without clinical symptoms. Clinical RM is characterized by elevated CK level along with symptoms of muscle pain, weakness, skin changes, or darkened urine. The objective of this study was to evaluate the incidence of clinical and subclinical RM associated with minimally invasive urologic surgical procedures and positions.

**METHODS:** CK levels were prospectively determined in 330 patients undergoing minimally invasive urologic surgical procedures

between January 2003 and August 2007. The data was stratified into three cohorts according to procedure type and positioning: 158 patients underwent hand-assisted laparoscopic flank procedures, 61 patients underwent robot-assisted or purely laparoscopic flank procedures, and 111 patients underwent robot-assisted or purely laparoscopic supine procedures. The results were analyzed using a binary logistic multivariate model for the different cohorts. Statistical significance was determined by odds ratio at an alpha of 0.05.

**RESULTS:** Out of 330 patients, 59 (17.9%) had subclinical and five (1.5%) had clinical RM. All clinical RM patients had undergone hand-assisted laparoscopic flank procedures. Univariate analysis showed that age, ethnicity, and operative time contributed independently to CK elevation. Multivariate analysis, after adjusting for age, gender, operative time, ethnicity, and body mass index, demonstrated that hand-assisted laparoscopic procedures in the flank position had an 8.7 times increased risk of CK elevation (95% CI, 2.459-30.836) compared to the robotic and purely laparoscopic procedures in the flank position, and a 3.1 times increased risk of CK elevation (95%CI, 1.113-8.849) compared to robot-assisted and purely laparoscopic procedures in the supine position. Additional findings demonstrated that African-American race increased the risk of CK elevation 4x compared to Caucasian race and female sex decreased the risk of CK elevation 54.7% compared to male sex.

**CONCLUSIONS:** In this study, hand-assisted laparoscopic patients had an 8.7x increased risk of subclinical RM compared to similarly positioned purely laparoscopic patients. Further studies are necessary to determine the etiology of this increase in CK and methods to prevent subclinical and clinical RM in patients.

**Source of Funding:** None

## Urodynamics/Incontinence/Female Urology : Incontinence: Evaluation & Therapy (I)

### Podium Session 27

Tuesday, May 20, 2008

8:00 - 10:00 am

## 1284

### SIX YEARS FOLLOW UP OF BOTULINUM A TOXIN INTRADETRUSORIAL INJECTIONS IN PATIENTS WITH REFRACTORY NEUROGENIC DETRUSOR OVERACTIVITY: CLINICAL AND URODYNAMIC RESULTS

*Antonella Giannantoni\*, Ettore Mearini, Alessandro Zucchi, Massimo Porena. Perugia, Italy.*

**INTRODUCTION AND OBJECTIVE:** We investigated the effectiveness and safety of botulinum-A toxin (BONT/A) injections into the detrusor muscle in a group of spinal cord injured (SCI) patients with detrusor overactivity unresponsive to conventional anticholinergics, who reached a follow up longer than 6 years.

**METHODS:** Since October 2000, 83 patients with refractory neurogenic and non-neurogenic detrusor overactivity, bladder hypersensitive disorders and BPH have been treated at our institution with intravesical BoNT/A. Among them, 17 SCI patients reached a follow up longer than 6 years and received multiple treatments along time. We reviewed clinical evaluations, voiding charts, frequency of urinary tract infections-UTI, imaging assessment of the upper urinary tract (UUT), and urodynamics, as well as patients' drop out and satisfaction.

**RESULTS:** 17 patients have been included in this study. During the first 2-yr, clinical evaluation, urodynamics and upper urinary tract (UUT) imaging were repeated every 4 months; then they were performed when there was a worsening of both clinical and urodynamic data. Overall, 119 injections have been performed. Mean number of injections was  $7 \pm 1.3$  for each patient, and mean distance between 2 consecutive injections was  $11.0 \pm 2.4$  mos. At 6 yrs follow up, we observed a significant decrease in the frequency of daily incontinence episodes ( $p < 0.01$ ) and a significant increase in first uninhibited detrusor contraction (UDC) and in maximum bladder capacity ( $p < 0.001$ , respectively), and a significant decrease in maximum pressure of UDC ( $p < 0.01$ ). None patients showed any impairment of UUT function. Improvements were particularly remarkable in 15 patients (88.2%) after the second treatment, probably due to the inevitable learning-curve