

**ENDOUROLOGY & LAPAROSCOPY**

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**A comparison of the incidence and location of positive surgical margins in robotic assisted laparoscopic radical prostatectomy and open retropubic radical prostatectomy**

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**Purpose:** Surgical technique, patient characteristics and method of pathological review may influence surgical margin status. We evaluated the incidence and location of positive surgical margins in 200 sequential robotic assisted laparoscopic radical prostatectomy and 200 sequential open radical retropubic prostatectomy cases.

**Materials and Methods:** From July 2002 until December 2006 a total of 1,747 patients underwent radical prostatectomy at our institution (robotic assisted laparoscopic radical prostatectomy in 1,238, radical retropubic prostatectomy in 509). From these we selected the last 200 consecutive radical retropubic prostatectomies and 200 robotic assisted laparoscopic radical prostatectomies performed before August 2006. Preoperative clinical characteristics including age, clinical stage, prostate specific antigen and Gleason score were evaluated. Postoperatively pathological specimens were assessed for specimen weight, Gleason score, tumor volume, pathological stage and margin status. The incidence and location of positive surgical margins were compared between robotic assisted laparoscopic radical prostatectomy and radical retropubic prostatectomy.

**Results:** Patients undergoing robotic assisted laparoscopic radical prostatectomy compared to radical retropubic prostatectomy had more favorable tumor characteristics including lower prostate specific antigen, clinical stage and Gleason score. No statistically significant differences were found between groups for prostate volume or tumor volume. However, tumor volume as a percentage of prostate volume was higher among radical retropubic prostatectomy compared to robotic assisted laparoscopic radical prostatectomy cases (17.7% vs 13%,  $p = 0.001$ ). The overall incidence of positive surgical margins was significantly lower among the robotic assisted laparoscopic radical prostatectomy compared to radical retropubic prostatectomy cases (15% vs 35%,  $p < 0.001$ ). The incidence of positive surgical margins according to pathological stage for robotic assisted laparoscopic radical prostatectomy vs radical retropubic prostatectomy cases was 16 of 171 (9.4%) vs 33 of 137 (24.1%) for pT2 ( $p < 0.001$ ) and 14 of 28 (50%) vs 36 of 60 (60%) for pT3. In both groups the apex was the most common site of positive surgical margins with 52% in the robotic assisted laparoscopic radical prostatectomy group vs 37% in the radical retropubic prostatectomy group ( $p > 0.05$ ).

**Conclusions:** In the hands of surgeons experienced in robotic assisted laparoscopic radical prostatectomy and radical retropubic prostatectomy, there was a statistically significant lower positive margin rate for patients undergoing robotic assisted laparoscopic radical prostatectomy. The most common location of a positive surgical margin in robotic assisted laparoscopic radical prostatectomy and radical retropubic prostatectomy cases was at the apex. Patients treated with radical retropubic prostatectomy had higher risk features which may have independently influenced these results. The method of pathological specimen analysis and reporting may account for the higher positive margin rates in both groups compared to some reports.

**Editorial Comment**

The authors report an intra-institutional comparison of positive margin rates between open and robotic assisted laparoscopic radical prostatectomy (RALP). A total of 1,747 (1,238-robotic and 509 open) patients were studied during 4-year period. In both groups, the apex was the most common site of a positive surgical margin (52% in the RALP group vs. 37% in the open group). Although stratification methods were applied to the study, the open group had higher tumor volume while the robotic group had significant lower PSA levels and higher Gleason score 4/5 (27.5% of the open vs. 14% of the robotic group). This study reports the skills of fellowship

trained surgeons and in particular one surgeon that had vast experience in RALP and open radical prostatectomy; reducing the bias of the learning curve among different surgeons. Thus far, similar functional and oncological outcomes have been reported despite the surgical technique (open, laparoscopic or robot assisted laparoscopic prostatectomy) when the procedure is performed by experienced surgeons.

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### **Incidence of local recurrence and port site metastasis after laparoscopic radical nephroureterectomy**

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**Objectives:** To address the incidence of local recurrence and port site metastasis in patients who underwent laparoscopic radical nephroureterectomy (RNU) for upper tract transitional cell carcinoma (TCC).

**Methods:** Between August 1993 and February 2006 116 laparoscopic RNU were performed in 115 patients at our institution. A traditional open excision, a laparoscopic stapler resection or a different approach was used for the management of the distal ureter in 76, 27, and 11 cases, respectively. Clinical follow-up as well as perioperative and pathologic data were retrospectively collected.

**Results:** Perioperative and pathologic data were available in all 116 cases. Clinical outcomes were available in 107 patients with a mean follow-up of 30.5 months (range 1 to 148). Six patients (5.6%) had a local recurrence develop, including 1 patient with port site metastasis (0.9%) at an average of 5.7 months. In 2 of these patients, violation of the ipsilateral urinary tract was noted perioperatively.

**Conclusions:** We report, in this large single-center series of laparoscopic RNU, a low incidence of local recurrence. Our results confirm that a laparoscopic approach to upper tract TCC does not result in a clinically significant increased risk of tumor spillage provided that principles of oncologic surgery are followed.

### **Editorial Comment**

Laparoscopy radical nephroureterectomy (LRNU) has been challenged and questioned as treatment of upper tract transitional cell carcinoma (TCC) due to the possible port or bladder cuff resection sites recurrence. Different authors demonstrated diverse methods to manage the bladder cuff during LRNU and similar recurrence rates and outcomes to the open technique have been reported. This single-center retrospective study (107 patients) demonstrated that the laparoscopic approach did not increase the risk of tumor spillage when principles of oncologic surgery are followed.

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