Standardized comparison of robot-assisted limited and extended pelvic lymphadenectomy for prostate cancer.

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Abstract

WHAT'S KNOWN ON THE SUBJECT? AND WHAT DOES THE STUDY ADD?: Extended pelvic lymphadenectomy is the present standard of care according to European Association of Urology guidelines. Extended dissection improves staging, removes more metastatic lymph nodes, and potentially has therapeutic benefits. Previous reports have examined the morbidity of extended dissection compared with a more limited dissection in the open and laparoscopic setting. While some have suggested an increased complication rate with extended node dissection, others have not. This represents the first study focused on comparing the complications associated with the extent of node dissection using the modified Clavien system and Martin criteria in the literature on robot-assisted surgery. In a single surgeon series, we found no statistically significant differences in complications. With careful anatomic dissection, robot-assisted extended lymph node dissection can be performed safely and effectively, although operating time and length of hospital of stay are slightly increased.

OBJECTIVES: To compare the perioperative course of patients undergoing robot-assisted limited lymph node dissection (LLND) or extended lymph node dissection (ELND) for prostate cancer. To examine the differential lymph node counts and rates of detection of lymph node metastases.

PATIENTS AND METHODS: Between 2008 and 2012, 406 consecutive patients with D'Amico intermediate- or high-risk prostate cancer underwent either bilateral LLND (n = 204) or ELND (n = 202) and robot-assisted laparoscopic radical prostatectomy by a single surgeon. The region of dissection was the obturator fossa for LLND, while ELND included, in addition, the common iliac, external iliac and internal iliac lymph nodes. All complications within 90 days of surgery were recorded according to a modified Clavien system. Clinical variables were summarized and compared. Logistic regression was used to identify predictors of complications.

RESULTS: There were no differences in demographics when comparing patients who underwent ELND with those who underwent LLND. The median operating time was 3.0 h for the ELND cohort and 2.8 h in the LLND cohort (P < 0.001). Intraoperative blood loss was 200 mL in both cohorts. Hospital stay was longer for a small percentage of patients in the ELND cohort, with 75% of ELND patients and 85% of LLND patients staying 1 day (P = 0.004). No significant difference was found in the overall or major complication rates between LLND (21.6% overall; 6.9% major) and ELND (22.8% overall; 4.5% major). No difference was seen in the symptomatic lymphocele rate between LLND and ELND, 2.9 vs 2.5%, respectively. Overall, the lymph-node-positive rate was 12% compared with 4% for the ELND and LLND groups, respectively (P = 0.002). A higher Charlson comorbidity index score was associated with the development of major complications.

CONCLUSIONS: ELND at the time of robot-assisted radical prostatectomy can be performed safely with minimal additional morbidity. Long-term oncological and functional outcomes require further study.
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