

ENDOUROLOGY & LAPAROSCOPY

Hand-assisted laparoscopy for large renal specimens: a multi-institutional study

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Objectives: To present our experience with hand-assisted laparoscopy (HAL) for larger renal specimens. One of the theoretical benefits of HAL is the ability to manage large renal specimens, which we defined as tumors greater than 7 cm, and tumors in obese patients.

Methods: Between March 1998 and October 2000, 106 HAL radical nephrectomies were performed for enhancing renal masses, for which 95 patients had complete preoperative, intraoperative, and postoperative data. Of the 95 patients, 32 underwent HAL for large tumors (7 cm or greater) and 41 had a body mass index

of 31 or greater. The demographic and outcome data of these two groups were compared with 63 patients who underwent HAL for tumors less than 7 cm and 54 patients with a body mass index of less than 31.

Results: When comparing cohorts by tumor size, the only statistically significant differences were in convalescence and specimen weight. Patients with lesions 7 cm or greater required 21 days to recover compared with 18 days for patients with lesions less than 7 cm. Obese patients had statistically significantly higher American Society of Anesthesiologists classifications, longer operative times (214 versus 176 minutes), and longer convalescences (21 versus 17.5 days) compared with nonobese patients. The estimated blood loss and conversion rate was not different between the groups. Furthermore, no difference was noted between the groups in the incidence of positive margins, local recurrence, or metastatic recurrence at a mean follow-up of 12.2 months.

Conclusions: HAL provides a safe, reproducible, and minimally invasive technique to remove large renal tumors and renal tumors in the obese.

Editorial Comment

It is widely recognized that radical nephrectomy, whether open surgical or laparoscopic, is more difficult in the obese patient or with a very large specimen. It is not the subcutaneous fat or the size of the tumor that matter in most cases, but rather the amount of perinephric fat that is the major determinant of specimen size and therefore operative difficulty. Obesity is considered a relative contra-indication for laparoscopic nephrectomy early in one's experience. The point of this report is that the hand-assisted approach to laparoscopic nephrectomy allows the surgeon to address very effectively even very large patients with large specimens. The operative times and recovery periods tended to be a bit longer in the larger patients, but I would argue that these differences would have been greater if one compared the operative time and convalescence following open surgical radical nephrectomy in obese and non-obese patients. Laparoscopic nephrectomy in general, and the hand-assistance approach in particular, probably offers more to the obese patient than to the non-obese patient in terms of the recovery advantage over open surgery.

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Prospective comparison of short-term convalescence: laparoscopic radical prostatectomy versus open radical retropubic prostatectomy

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Objectives: To evaluate and compare prospectively the convalescence of patients after laparoscopic radical prostatectomy (LRP) and open radical retropubic prostatectomy (RRP) in a standardized clinical care pathway at a single institution by two surgeons of equal experience and training.

Methods: The study included all 60 patients undergoing LRP and RRP by two fellowship-trained surgeons in their first year of practice. The postoperative care of these patients was uniform and standardized. The medical records were reviewed and convalescence data obtained by an independent urologist and physician's assistant.

Results: Of the 60 patients, 24 underwent RRP and 36 underwent attempted LRP; 3 patients were converted from LRP to RRP. The differences in mean age, preoperative prostate-specific antigen level, Gleason score, in-hospital morphine equivalent requirement, time to oral intake, and hospital stay were not statistically significant between the LRP and RRP groups. The operating room time was significantly longer (5.8 ± 1.2 hours versus 2.8 ± 0.55 hours, $P < 0.0001$) and the estimated blood loss was significantly lower in the LRP group (533 ± 212 mL versus 1473 ± 768 mL, $P < 0.0001$) than in the RRP group. Pain medication use at home was significantly less in the LRP group (9 ± 13 versus 17 ± 15 oxycodone tablets, $P < 0.04$), as was the time to complete convalescence (30 ± 18 days versus 47 ± 21 days, $P < 0.002$).

Conclusions: Although LRP took almost twice as long to complete as RRP in our initial clinical experience, the patients had a similar hospital course. LRP patients required less pain medication after discharge and had a shorter time to complete recovery than did RRP patients. Additional studies are needed to address long-term cancer control, potency, and continence outcomes to determine the precise role of LRP in the treatment of men with clinically localized prostate cancer.

Editorial Comment

Although laparoscopic radical prostatectomy has been routinely applied at several centers worldwide, the procedure is far from universally accepted. Surprisingly, this is the first paper to address critically one aspect of the laparoscopic prostatectomy that is purported to be one of its main advantages that being an improved post-operative convalescence compared to open surgical prostatectomy. There are a few problems with this study, primarily being that the method of obtaining the convalescence data was not clearly defined and certainly a validated questionnaire was not used, and that the operations were performed during the first year of practice of the 2 attending surgeons (although both had received fellowship training). With these caveats in mind, the data can still be informative. Laparoscopic radical prostatectomy took 3 hours longer in the operating room than did the open surgical procedure. That is consistent with the experience level of the surgeons, and the operative time for the laparoscopic procedure has been shown to decline (probably to the point of 30 to 90 minutes longer than for the open procedure) with continued experience. It is likely that the increased operative time in the laparoscopic group had some negative impact on the recovery of this group, but not so much as did the difference in operative approach. The laparoscopic group gained partial convalescence (what I would term “normal, non-strenuous activity”) in 12 days, compared to 21 days in the open surgical group (57% sooner) and full convalescence in 30 days compared to 47 days (36% faster). These improvements are about the same order of magnitude in a relative sense as that reported in studies of laparoscopic nephrectomy, although since the absolute recovery time is less following prostatectomy compared to nephrectomy, the difference in terms of absolute time (9 days for partial convalescence and 17 days for full convalescence) is a bit less than that seen in the nephrectomy population. We have unpublished data from our institution that suggests a recovery benefit of similar magnitude for laparoscopic prostatectomy. However, improved recovery following laparoscopic compared to open surgical prostatectomy has been assumed - the key comparisons to be made are for cancer control, potency, and continence. These issues are not addressed in this report and continue to be the subject of debate.

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