Laparoscopic radical prostatectomy is still a viable option for localized prostate cancer in Asians

Although it has clearly been documented that there is a trend toward robotic-assisted laparoscopic radical prostatectomy (RARP) being the choice of treatment for localized prostate cancer, laparoscopic radical prostatectomy (LRP) is still a viable option for prostate cancer patients in Asia. In 2009, 10.5% (13/123) prostate cancer patients received LRP in all cases of radical prostatectomy at one of Taiwan’s referral medical centers. Transperitoneal (TP) RARP and transperitoneal LRP (TLRP) provide a large working space and clear anatomic exposure; these are adopted by the vast majority of surgeons. Which approach is better when comparing the TP with the retroperitoneal route? Randomized controlled trials are needed to determine this. A meta-analysis of 942 cases from nine controlled trials, including 492 cases of TLRP and 450 cases of extraperitoneal laparoscopic radical prostatectomy (ELRP), was analyzed. It was concluded that ELRP is similar to TLRP with regard to operation time, blood loss, and postoperative hospital stay, but shorter postoperative intestinal function recovery was found with ELRP.

For the comparison of TP and extraperitoneal (EP) RARP, six control studies were reviewed. A total of 842 cases were enrolled, 530 patients for EP-RARP and 312 for TP-RARP. The findings suggested that perioperative parameters, including operation time and hospital stay, may be more favorable for EP-RARP than for TP-RARP. The oncologic outcome of margin positivity was similar. Ploussard et al. reported on a comparison 205 cases of ELRP and 83 cases of EP RARP. Operating room time was not significantly different between the two groups (223.6 minutes vs. 215.7 minutes in ELRP vs. EP-RARP groups, p = 0.23). The mean patient setup was longer in the EP-RARP group (33.2 minutes vs. 24.0 minutes, p < 0.01). The mean operative time was significantly shorter in the TARP group (145.6 minutes vs. 164.7 minutes, p < 0.01). Hospital stay, bladder catheterization, and complication rate were similar between the two groups.

In this issue a small-scale study retrospectively compared 71 cases of ELRP and 22 cases of TLRP performed by a single surgeon from 2006 to 2012. It concluded that ELRP has a shorter operation time (184 minutes vs. 285 minutes, p < 0.05) and less blood loss (183 mL vs. 276 mL, p < 0.05) than TLRP. The case number of both groups was uneven, and there were only 22 cases in the TLRP group. The surgeon performed, on average, four cases of TLRP per year, and this means that there is still a learning curve to be considered. However, the operator favored ELRP and performed more cases using the four-trocar approach. The operator (V.C. Lin) described this method with the following key steps for ELRP: after the anterior bladder neck was open, an Endo Close needle was used to pull the urethral Foley catheter upward to make the posterior bladder neck prominent, and the needle was used to perform a suprapubic small stabbing wound, sparing a trocar. The 1-year continence rate was 100% in the ELRP group and 95.5% in the TLRP group, and there was a 74% potency rate for both groups. He concluded that the novel technique is a feasible method for endoscopic laparoscopic radical prostatectomy using four ports instead of five. ELRP has been proven to be a standardized and safe procedure with good oncologic and functional outcomes at 5-year long-term follow-up. Verze et al. published results about a total of 1600 consecutive ELRP cases. The mean operative time was 125.6 minutes (no pelvic lymph node dissection), with an additional 25 minutes for bilateral pelvic lymph node dissection. The positive surgical margin rates were 7.4% for pT2 and 13.4% for pT3 tumors. The overall complication rate was 4%. The 5-year biochemical recurrence-free survival (Prostate specific antigen (PSA) < 0.2 ng/mL) after ELRP was 88.7% for patients staged as pT2, 73.9% for pT3a, and 62.4% for pT3b. The complete urinary continence rate was 92% after 12 months and 98.4% at 24-month follow-up. The overall potency rate at 12-month follow-up was 75% for patients with bilateral neurovascular bundle preservation.

This paper reflects the real-world situation of the role of LRP for localized prostate cancer in Asia, if no da Vinci systems are available in some hospitals. LRP has become the main tool for radical prostatectomy, and this technique requires a degree of skill. Thus, several surgeons have endeavored to modify and improve the technique related to LRP, for example, by reducing the number of ports used (use of 2- or single-port LRP in Asia). A Japanese medical center described the surgical technique of an original EP two-port approach for 22 cases of laparoendoscopic radical prostatectomy. A multichannel port with three 5-mm trocars and an additional 12-mm port were used. The operation was successfully completed in all patients, but one patient required an additional 5-mm port to control bleeding. The results showed that the operation time was 259 minutes and the fluid loss (urine and blood) was 946 mL. No intraoperative complications were noted, and the Foley indwelling catheter was removed 6 days after surgery. Jiang et al. reported the midterm outcomes of 20 cases of laparoendoscopic single-site radical prostatectomy with a homemade single-port device, with a median follow-up of 22.8 months. The mean operative time was 248 minutes, and the estimated blood loss was 94 mL. The complication rate (Clavien Grade 2) was 20% (4/20). No biochemical recurrence was detected. The complete continence rates were 85% and 90% at 1 year and 2 years, respectively. LRP is commonly performed in Asia and Europe; preferably, a retroperitoneal
The approach is used in several centers. Thus, it can be concluded that LRP is feasible and safe, with excellent oncological and functional outcomes.

**Conflicts of interest**

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