

Pure Laparoendoscopic Single Site Extraperitoneal Radical Prostatectomy with Mean 16 Months' Follow-Up: A Chinese Institution Experience

Introduction and Objective: To report our experience with pure laparoendoscopic single site extraperitoneal radical prostatectomy using homemade multichannel single port with 16 months follow-up.

Materials and Methods: Between February and October 2010, we operated on 5 patients with localized prostate cancer (T₁C, mean PSA level 4.7). Two patients underwent appendectomy many years ago. The single multichannel port was made from outer ring, inner elastic rings and a sterile surgical glove as well. After a 2.5 cm curved periumbilical incision was made, the preperitoneal space was entered. Then, the homemade multichannel port was inserted. The preperitoneal space was developed. Pelvic lymph nodes dissection and radical prostatectomy were performed in accordance with the technique of laparoscopic extraperitoneal radical prostatectomy. The vesicourethral anastomoses were made using continuous suture with 3-0 monocryl thread. Pelvic drainage was inserted through center of belly button and periumbilical incision was closed with subcuticular suture.

Results: All cases were completed successfully in a mean operative time of 245 min (range 225-310), mean estimated blood loss 170 ml (range 50-500). Blood transfusion was required in one case. No extra port was needed. There were no intraoperative complications. The catheter was removed after cystogram revealing no leakage 18 days postoperatively. The pathological investigation revealed pT2a or pT2b prostate cancer in all five cases without positive surgical margins or pelvic lymph node metastasis. The mean Gleason score is 5.2 (range 4-7). PSA decreased to baseline level in all patients one month after operation. After a mean follow-up of 16 months (range 12-19), no relapse was observed in all cases. Continence was gained 3 to 5 weeks postoperatively in all patients. No safety pad was required during nighttime. Dysuria happened to the first patient 2 months postoperatively and urethral erosion by a Hem-o-lok clip was found with cystoscopy. After the clip was removed with transurethral intervention, the patient urinated normally.

Conclusion: According to our experience, laparoendoscopic single site extraperitoneal radical prostatectomy is feasible safe with good cosmetic results, but it is technically challenging and time-consuming especially for vesicourethral anastomoses. Medium-term follow-up results from our study showed LESS radical prostatectomy can offer good oncological and functional outcomes.