Single-centre evaluation of the extraperitoneal and transperitoneal approach in robotic-assisted radical prostatectomy

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Abstract

Objective. Robotic-assisted radical prostatectomy (RARP) is feasible using either an extraperitoneal (EP) or a transperitoneal (TP) approach. This study reports on the experience of a single hospital using both techniques.

Material and methods. From July 2009 to March 2011, 170 patients underwent RARP. EP was chosen in 103 patients and TP in 67. TP was preferred in cases of previous mesh hernia repair or if extended lymph-node dissection (LND) was considered necessary. Otherwise, EP was performed; it was preferred in cases of obesity (body mass index (BMI) > 30 kg/m²) or previous intra-abdominal surgery.

Results. There were no significant differences in preoperative mean age (64.4 vs 65.6 years), BMI (26.5 vs 26.3 kg/m²) or prostate size (51.8 vs 55.8 cm³) between EP and TP patients. Owing to preoperative selection criteria, prostate-specific antigen levels and the average Gleason score were significantly lower in EP than in TP patients (p < 0.001). Whereas access time and time for anastomosis did not differ significantly (21 vs 19 min, p = 0.11, and 26 vs 24 min, p = 0.36, respectively), overall surgical time was significantly longer in TP (225 vs 191 min, p < 0.001). Blood loss was equal in both groups (EP 276 vs TP 281 ml, p = 0.88). Complication rates were lower in EP (n = 7, 6.8% vs n = 8, 12%, p = 0.024). Time until first defecation and last analgesic treatment were significantly shorter in EP (p < 0.05). Conclusions. The results of the current evaluation underline the clinical advantages of an extraperitoneal approach for RARP. However, a transperitoneal approach is still considered necessary for extended LND or special clinical conditions. Robotic teams should be trained using both approaches.

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