Nerve-Sparing Procedure Impacts on Early Recovery of Postoperative Urinary Continence in Patients Treated with Total Urinary Reconstruction Technique in Robot-Assisted Radical Prostatectomy

Introduction and Objective: The association between baseline status or surgical procedure and urinary continence recovery after robot-assisted radical prostatectomy (RARP) remains controversial. Our RARP procedure consisted of ultradissection of bladder neck without opening the endopelvic fascia and total urinary reconstruction, comprising posterior (Rocco stitch), anterior, and lateral rebuilding to reverse the pre-prostatectomy anatomical structure. In this study, we retrospectively analyzed the affecting factors for the postoperative urinary continence recovery after RARP.
Materials and Methods: This study included 106 consecutive patients with prostate cancer treated with bilateral nerve sparing radical prostatectomy between 2008 and 2011. All patients had preoperative functional and oncological data available, including age at surgery, body mass index, prostate specific antigen, and erectile and urinary function. Also, operative data consisted of nerve-sparing status, estimated blood loss (EBL), and operative duration. Median operative time and EBL was 191 minutes and 200 mL, respectively. Out of 106, nerve-sparing procedure was applied in 64 (60.4 %) for unilateral and 20 (18.9 %) for bilateral. Urinary continence was defined as wearing less than one pad, just for safety. Univariate and multivariate Cox regression models were used to test the association between predictors and urinary continence recovery after surgery.
Results: At a mean postoperative follow-up of 12.5 months (range 3 to 32) 102 patients (96.2%) had recovered urinary continence. Overall urinary continence recovery rate at 1, 3, 6 and 12 month post RARP was 50.0, 82.1, 93.4, and 97.2%, respectively. On univariate analysis patient age and the nerve-sparing status were significantly associated with urinary continence recovery, $p=0.048$ and $p=0.020$, respectively. On multivariate Cox regression analysis, the nerve-sparing procedure, including uni and bilateral, was demonstrated to be the only independent predictor of urinary continence recovery after RARP.
Conclusions: Nerve-sparing procedure on RARP should be considered for urinary continence predictions for accurate patient counseling before surgery. Nerve-sparing procedure might affect the pelvic vascular as well as synthetic nervous condition, which may affect the status of the external urinary sphincter, leading to early urinary continence recovery.