PE38 Determining adverse risk factors for urinary continence recovery after robotic radical prostatectomy and methods to enable early recovery

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Introduction & Objectives: Early urinary continence (EUC) following robot-assisted radical prostatectomy (RARP) is determined by patient and surgical factors. We assessed preoperative and perioperative factors which would be associated with recovery of EUC and suggest methods to enable EUC.

Materials & Methods: Between March 2018- December 2018, 501 patients underwent RARP at our institution. Patient demographics and clinical factors such as age (continuous), body mass index (BMI) [continuous], neurovascular bundle (NVB) sparing (none vs unilateral vs bilateral), prostate weight (continuous), Retzius sparing operative technique (yes vs no) and operating surgeon (consultant vs trainee) were recorded. Continence data were available for 431 patients and was included for analysis. All patients had undergone magnetic resonance imaging (MRI) of the pelvis preoperatively and external membranous urethral length (MUL) was determined by an experienced uro-radiologist. EUC was defined as no pad use at three months postoperatively.

Results: Median patient age was 64.0 years (IQR: 57.0-69.0 years) with a median BMI of 27.0 (IQR: 25.0-29.9). A total of 196 patients (46.2%) had bilateral NVB and 142 patients (33.5%) and 86 patients (20.3%) had unilateral and non-NVB sparing operation respectively. EUC was achieved by 241 patients (55.9%) at 3 months post op, while 339 patients (78.7%) needed a pad or less over a 24 hour period. Univariate analysis suggests that younger patients (continuous, p=0.012), lower prostate weight (continuous, p=0.018), longer external MUL (13.5 mm vs 12.6 mm, p=0.047) and Retzius sparing technique (72.9% vs 53.2%, p=0.005) were associated with EUC. NVB sparing, operating surgeon and BMI were not associated with EUC. Multivariate logistic regression analysis suggest that that younger age (HR: 0.95, 95% CI: 0.911-0.991, p=0.018) and Retzius sparing technique (HR: 0.38, 95% CI: 0.149-0.698, p=0.043) were independently associated with EUC at three months even after adjusting for BMI, external MUL and NVB sparing.

Conclusions: Our results suggest that longer urethral length is predictive of EUC. We suggest that patients with shorter urethral lengths should if possible have a Retzius sparing technique as they had better EUC even after accounting for adverse risk factors such as patient age, BMI, NVB sparing and external MUL. This work could result in personalised care for men undergoing prostate cancer surgery to alleviate the harms and quality of life detriment due to post-Prostatectomy urinary incontinence