Changes of Pelvic Floor Anatomy before and after Obtaining Continence in Post-Radical Prostatectomy

Introduction and Objective: The urinary incontinence after radical prostatectomy (RP) is a common problem and an important issue of quality of life. To obtain early continence, several surgical modifications have been tried and pelvic floor muscle training is the first line therapy and recommended. Little is, however, currently known about the change of pelvic floor muscle and anatomy after RP. In this study, we evaluated the change of pelvic floor anatomy in MRI before and after obtaining continence in RP patients.
Materials and Methods: Thirteen men who underwent radical retropubic prostatectomy with prostate cancer (mean age 67.4±8.8) were included in this study. Post-prostatectomy continence was defined as no pad status. Pelvic floor MRI was performed in preoperative (1), incontinent (2) and continent (3) period. Membranous urethra length (MU), puborectalis muscle (PRM) thickness, the position of bladder neck in relation to the pubic bone (Dx) and the pubococcygeous line (Dy) were measured. We compared all parameters in preoperative, incontinent and continent period.
Results: The average MU length of three periods was 13.4±1.4, 15.0±1.0 and 15.7±1.4mm respectively. MU2 and MU3 was significantly increased than MU1 ($p<0.05$). The average PRM thickness of three periods was 7.1±0.8, 7.0±0.9 and 8.3±0.7mm. PRM3 was significantly increased than PRM1 and PRM2 ($p<0.05$). Dx of continence period is shorter than that of incontinence ($p<0.05$). Dy of continence period is longer than that of incontinence ($p<0.05$).
Conclusion: Our results demonstrate that MU length and PRM thickness were increased, and bladder neck was moved upper and anteriorly in the recovery process of incontinence after RP. We think that the changes of MU and PRM play an important role in recovery of incontinence after RP.