784 Efficacy of propiverine hydrochloride for urinary incontinence after robot-assisted or laparoscopic radical prostatectomy

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Introduction & Objectives: Robot-assisted radical prostatectomy (RARP) and laparoscopic radical prostatectomy (LRP) allow performance of delicate surgery while preserving urethral function. Although they provide clearer operative fields than retropubic RP, they are associated with a high incidence of urinary incontinence. We hypothesized that decreased urethral pressure mediated by adrenergic receptors after RP causes the incontinence. Propiverine HCl is not only an anti-cholinergic agent but inhibits noradrenaline reuptake. Few studies, however, have assessed its effect on urinary incontinence after RP. We therefore aimed to identify the improvement of incontinence and/or any changes in the urethral pressure profile (UPP) after RARP/LRP followed by propiverine HCl.

Materials & Methods: We performed randomized, controlled clinical trial, with the pad test negative rate as endpoint. We assigned 104 consecutive patients who underwent RARP or LRP either to receive propiverine HCl (treatment group) or not (controls). We then recorded International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF) scores, and UPP, including maximum urethral closure pressure (MUCP) and functional urethral length (FUL), immediately and 3 and 6 months (M) after surgery.

Results: There were no serious intraoperative complications and adverse events caused by propiverine HCL. At 6M after surgery, the pad test negative rate was significantly higher in the treatment group than in controls [89.1% vs 73.2% (p=0.044)]. Almost all of the treatment group and controls showed improved ICIQ-SF scores 3 and 6 months after surgery. Over time, the MUCP and FUL increased significantly [immediately vs. 3M vs. 6M: MUCP, 78.3±41.1 vs. 100.8±48.9 vs. 114.8±45.4 cmH_2O, respectively (p=0.001); FUL, 15.9±5.4 vs. 17.5±5.9 vs. 20.5±9.6 mm, respectively (p=0.008)]. At 6M after surgery, change of ICIQ-CF scores and MUCP were significantly improved in the treatment group than in controls [ICIQ SF, -6.5 vs -4.5 (p=0.021); MUCP, +49.5 vs +28.7 mmHg (p=0.038)]. There was no statistical difference between the two groups, although the treatment group tended toward better result of FUL change [+4.5 vs +3.8 mm (p=0.091)]. Subgroup analysis showed that the negative pad test rate was significantly associated with MUCP (p=0.022), and not with FUL (p=0.176).

Conclusions: Propiverine HCl improved the MUCP. Thus, propiverine HCl may alleviate urinary incontinence after RP by increased MUCP.