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RISK FACTORS ON POST-OPERATIVE VOIDING DYSFUNCTION AFTER EXTENSIVE PELVIC RECONSTRUCTIVE SURGERY

Hypothesis / aims of study
Postoperative voiding dysfunction following pelvic organ prolapsed (POP) surgery is a long-standing distressing concern for surgeons and patients alike. Study regarding the possible predictors of voiding dysfunction after extensive pelvic reconstructive surgery is scarcely. Thus, identifying risk factors is of utmost importance and could improve counselling for women considering surgery and potentially allows surgeon to modify their approach to optimize the outcome of individual patient. The aim of this study was to identify the preoperative risk factors of developing post-operative voiding dysfunction (PVD) among women who had extensive pelvic reconstructive surgery (PRS) for POP.

Study design, materials and methods
Women who underwent trans-vaginal extensive pelvic reconstructive surgery from January 2006 to December 2014 were enrolled. Inclusion criteria were women with prolapse POP-Q stage ≧ III who had PRS with or without transvaginal mesh for advanced POP. We excluded women who have incomplete pre-operative data. Standard pre-operative and post-operative urogynecological evaluation were performed for all our patients. Investigations included urinalysis, 1-h pad test, cough stress test (CST), and multichannel urodynamic evaluation. Urodynamic examination was performed with the prolapsed reduce with appropriate size pessary. All patients were required to complete a 72-h voiding diary, IIQ-7, UDI-6, POPDI-6, and PISQ-12 at baseline and during follow-up at 12 and 36 months. Urodynamic study was performed between 6 months to 1 year post-operatively. The definition on PVD was post-void residuals (PVR) > 50ml or 20% of post-void and/ or reported incomplete micturition in POPD-6 Question 5 with answer 3 (moderate) and 4 (quite a bit).

Results
Among 1425 women enrolled, 54 patients were excluded due to no post-operative UDs data. 380 of 1371 (27.7%) women had pre-operative voiding dysfunction of which 9.7% (37/380) had persistent voiding dysfunction post-operatively. 991 (72.3%) had normal pre-operative voiding dysfunction of which 1.1% (11/991) had de nova voiding dysfunction post-operatively. The overall incidence of PVD was 3.5% (48/1371). 1017 of 1371 (74.2%) women included in this study had transvaginal mesh insertion and 247 (18%) had concomitant MUS. Those with concomitant MUS were at higher risk of developing PVD; OR: 3.12 (95% confidence interval (CI), 1.79-5.46, p<0.001). The diabetes mellitus, pre-operative Dmax < 10 cmH2O and PVR ≥ 200 ml hold a significant higher risk of developing PVD with OR: 3.07, 1.87 and 2.15 respectively, (95% CI, 1.69-5.60, 1.39-2.91 and 1.10-3.21 respectively). Age, Parity, BMI, Menopause, Uterus preserve, type of TVM used and FUL were not found to be related to the developing of PVD.
All women who developed PVD were first treated conservatively. The treatment options included were clean intermittent self-catheterization, α-adrenergic blocker, β-cholinergic agonist, MUS take down and urethral dilatation.

Interpretation of results
Diabetes mellitus, concurrent MUS surgery, pre-operative Dmax < 10 cmH2O and post-void residual urine ≥ 200 ml were the risk factors for patients with advanced POP to develop post-operative voiding dysfunction after pelvic reconstructive surgery. Therefore, counseling these women is worthwhile while considering the pelvic reconstructive surgery.

Concluding message
Women has advanced POP and presented with DM, pre-operatively Dmax <10cmH2O and pre-operative PVR≧ 200 ml would have higher risk of developing voiding dysfunction. Therefore, we suggest counselling such women for concomitant PRS and MUS surgery

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