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EFFICACIES OF TRANSVAGINAL MESH (TVM) RECONSTRUCTION ACCOMPANIED WITH TVT/TOT URETHRAL SLING FOR THE TREATMENT OF PELVIC ORGAN PROLAPSE CONCURRENT WITH STRESS URINARY INCONTINENCE.

Hypothesis / aims of study
The surgical procedure, known as transvaginal mesh (TVM), involved the implantation without suture of a synthetic mesh (polypropylene mesh, Gynemesh-PS^{TM}, Gynecare) in areas of vesicovaginal and rectovaginal dissection spaces. We evaluated clinical efficacies of TVM reconstruction and those accompanied with TVT/TOT urethral sling for the treatment of pelvic organ prolapse (POP) and stress urinary incontinence (SUI).
Study design, materials and methods
Between Nov.2006 to Feb.2007, 108 female individuals with POP underwent TVM reconstruction. The mean age of them was 66.6 years (range, 52-84). While 13 and 66 individuals were qualified as grade II and III in POP quantification (POP-Q) system, 29 were grade □, respectively. All cases had cystocele including 8 cases with history of hysterectomy, and 29 cases with rectocele. 88 of 108 cases showed SUI, which was preoperatively confirmed by pad tests and stress tests with a vaginal tampon. After obtaining written informed consents, 20 patients without SUI underwent TVM alone, and 88 cases with SUI underwent TVM accompanied with TVT/TOT sling. The anterior TVM repair was performed in all 108 individuals, and the concurrent Anterior/posterior TVM in 14 cases. One month after the surgery, the patients underwent postoperative evaluations. The evaluations consist of determination of vaginal prolapse according to the POP-Q system, international prostate symptom score (IPSS), IPSS-QOL score, International Consultation on Incontinence Questionnaires Short Form (ICIQ-SF), Short-Form 36-Item Health Survey (SF-36), maximum flow rate (MFR) and post void residual (PVR). Obtained parameters were evaluated by the Mann-Whitney U test and the Wilcoxon's test. The significance was determined with a p value less than 0.01
Results
The vaginal prolapses were cured in all the cases (100%) at 1 month after the surgery. Two of 20 cases (10%) who underwent TVM alone showed postoperative de-novo SUI. Although 106 cases (98%) who underwent TVM accompanied with TVT/TOT experienced improvement of SUI, two cases (2%) had deterioration of SUI. Postoperative IPSS, IPSS-QOL, ICIQ-SF, physical functioning scale of SF-36, and PVR showed significant improvement in all cases. Among IPSS, on the question-4 about overactive bladder (OAB) symptom improved in all cases. Two cases (2%) with concurrent TVT/TOT sling experienced postoperative voiding difficulty. They required a transient catheterization for couple of days and were recovered shortly. Three case of TVM alone group experienced vaginal erosion and wound infection, which were healed with a surgical repair and conservative management, respectively.
Table 1. Patient baseline

POP grade (No. of cases)	POP grade II and III (n=79)	grade IV (n=29)
MFR (ml/sec) (SD)	21.3 (9.1)	15.7 (10.2)*
PVR (ml) (SD)	120.7 (153.7)	108.7 (154.3)
IPSS(SD)	11.5 (7.4)	15.2 (10.9)
IPSS question 4	1.8 (1.7)	3.0 (2.2)*
QOL score(SD)	5.2 (6.1)	4.7 (1.5) *

p<0.01
Table 2. Postoperative evaluations

	Pre	Post
MFR (ml/sec) (SD)	20.1 (9.7)	18.8 (11.0)
PVR (ml) (SD)	109.0 (140.4)	42.9 (64.5)*
IPSS(SD)	12.6 (8.6)	3.9 (4.5)*
IPSS question 4	2.1 (1.9)	0.4 (0.7)*
QOL score(SD)	5.0 (5.0)	1.0 (1.4) *
ICIQ-SF(SD)	6.1(5.3)	2.5(3.2)*

* p<0.01
Interpretation of results
These results suggest short-term excellent efficacies of TVM reconstruction, and preventive effect of TVT/TOT sling for postoperative de-novo SUI. Based on our result, TVM also improved OAB symptoms. The incidences of complications associated with TVM and TVT/TOT sling seemed minimal.
Concluding message
TVM reconstruction with TVT/ TOT sling may be a reasonable option for the treatment of POP concurrent with SUI.

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