

## TENSION-FREE VAGINAL MESH IMPROVES LOWER URINARY TRACT FUNCTION FOR PATIENTS WITH PELVIC ORGAN PROLAPSE- BASED ON 282 CASES IN A SINGLE INSTITUTION

### Hypothesis / aims of study

To clarify the relation of pelvic organ prolapse (POP) and lower urinary tract symptom (LUTS), and observe changes in LUTS before and after the Tension-free vaginal mesh (TVM) procedure.

### Study design, materials and methods

Between December 2005 to March 2010, 400 female patients with POP underwent TVM reconstruction. The observation periods of this study were 2 years or more. 282 patients were enrolled in this study. Fifty-six individuals were qualified as Grade 2 according to the POP quantification system and 154 and 72 were Grade 3 and 4, respectively. One hundred seventy-three patients underwent anterior TVM, and seven underwent posterior TVM. One hundred two cases underwent both anterior and posterior TVM procedures. The mean age was 68.0 years (range, 42-84). Among them, 188 patients underwent concurrent Trans-obturator tape (TOT) procedure together with TVM. The lower urinary tract symptoms before and after the procedure were evaluated by using international prostate symptom score (IPSS), overactive bladder questionnaire (OAB-q), international consultation on incontinence questionnaire-short form (ICIQ-SF), uroflowmetry (UFM) and residual urine measurement (RU).

### Results

The worth grade of POP in POP quantification (POP-Q) system associated with the higher scores of IPSS (Table 1), IPSS-QOL and increased RU. Association of maximum flow rate (Qmax) showed no significance. As a result of multivariate analysis to determine the factors that influence the LUTS in POP patients, urine incontinence was an independent factor. After the TVM procedure, IPSS and the IPSS-QOL score significantly improved ( $p < 0.001$ ) and maintained two years later ( $p < 0.001$ ) (Figure 1). A significant improvement had been admitted by the IPSS each domain ( $p < 0.0001$ ) except nocturia ( $P = 0.051$ ). In the evaluation before and after the procedure by OAB-q, a significant improvement was obtained by all of the total score and 5 domains ( $p < 0.001$ ). ICIQ-SF of patients with concurrent TOT showed a significant improvement ( $p < 0.001$ ), whereas those without TOT showed no significant improvement. Qmax of patients with concurrent TOT slightly deteriorated until a week after the procedure, however it had improved one month after. Moreover, the RU of all patients tended to decrease as the cystocele disappeared.

### Interpretation of results

It was clarified that POP patient accompanied with impaired lower urinary function at high frequency and the TVM procedure brings not only the anatomical correction but also the improvements of LUTS.

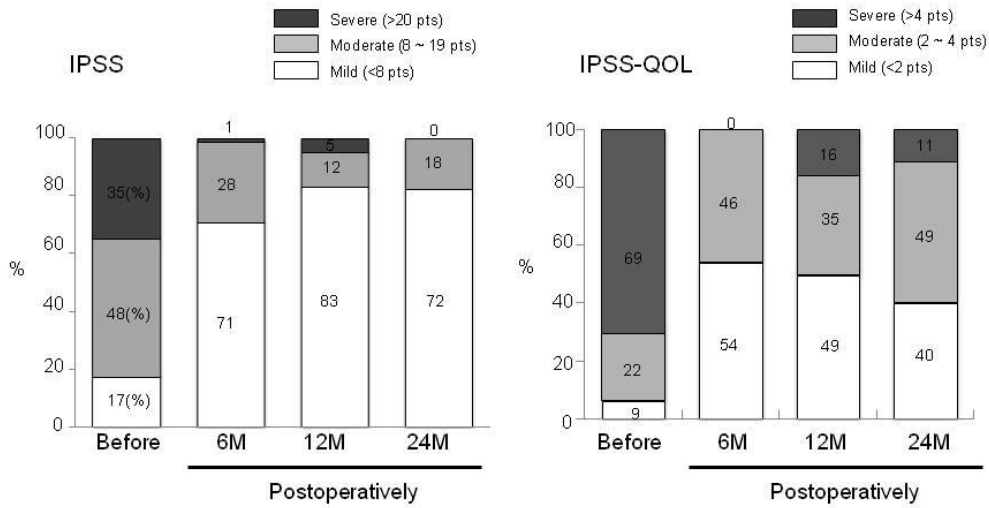
### Concluding message

Future challenges include detailed and long term observation of wide-ranging pelvic functions - urination, defecation and sexual function.

Table 1 LUTS grade according to IPSS before the TVM surgeries (n=282)

	Total (%)	Grade 2 (%)	Grade 3 (%)	Grade 4 (%)
Severe LUTS	97 (35)	7 (13)	53 (34)	37 (46)
Moderate LUTS	137 (48)	20 (36)	83 (54)	34 (47)
Mild LUTS	48 (17)	29 (51)	18 (12)	1 (2)

Figure 1



<b>Specify source of funding or grant</b>	<b>NONE</b>
<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>Yes</b>
<b>Specify Name of Ethics Committee</b>	<b>Nihon University School of Medicine, Ethics Committee</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>