8

Urodynamic Study in Female Urology

Fukuoka University, Japan
Haruo Tahara, MD

8 Urodynamic Study in Female Urology

Fukuoka University, Japan **Haruo Tahara, MD**

Urodynamic study (UDS) is essential to determine the therapeutic approach in surgical treatment. For docters and patients, it is useful to assess or predict the outcome of surgical therapy. It is very important to know that incontinence or voiding dysfunction in itself is not life-threatening condition.

1. UDS for Incontinence

The incidence of urinary incontinence in women of 60 years or older has been reported to be 37.8%. It consists of 26.7% of stress incontinence, 9.1% of urge incontinence, 55.3% of mixed incontinence and 8.9% of miscellaneous ones. In anti-incontinence surgery, we should clearly distinguish stress incontinence from the other types of incontinence. The uroflowmetric values, such as peak flow rate and average flow rate, are not significant differentiation of the clinical types of incontinence. Therefore, uroflowmetric measurements is not recommended as a routine test in diagnosis of incontinence. On the other hand, cystometry is the only direct and available test to identify involuntary detrusor contractions. However, one must keep in mind that urge incontinence is a nonspecific symptom, only 13.1% of which will manifest uninhibited bladder contractions on cystometry.

The posterior urethrovesical angle (PUV) was strongly related to continence status. However, there is no difference between stress and nonstress incontinence. There is also a significant overlap in PUV values in continence and incontinence subjects. The provocative stress test has an extremely specific character when compared with self-reporting continence status, though it has an expected false-negative rate of 28.5%.

- **Case 1.** Unstable bladder.
- **Case 2.** HAM (HTLV-1 associated myelopathy), TVT sling operation was failed.
- **Case 3.** Mucinous adenoma of the uterine cervix, resembling stress incontinence.

2. UDS for Voiding Dysfunction

Difficult bladder emptying symptoms such as hesitancy, weak stream, interruption of the stream, straining to void are mainly caused by underactive bladder (weak detrusor), whereas they are mostly relating to bladder outlet obstruction (BOO) in men. The incidence of BOO in women, however, is not well known. Previous studies have reported that 2.7 to 23% of women are referred for evaluation of lower urinary tract symptoms. BOO nomograms (the Abrams-Griffith, the Schafer, and the ICS) on the basis of pressure-flow data are routinely used in the evaluation of obstructive uropathy in men. These nomograms, however, are hardly applicable to women, because normal voiding detrusor pressure is significantly lower in women (0 to 30 cmH2O) than in men (50 to 60 cmH2O).

Blaivas and his colleagues recently reported that the AUA symptom index score is useful in the evaluation of BOO in women. They also proposed a combined diagnostic method of free-flow measurement, pressure-flow study and voiding cystourethrography. The free Qmax (free-flow study) and pdet.max (pressure-flow study) are chosen as

the parameters to make a new BOO nomogram for women.

- **Case 4.** Urethral stricture after urethral prolapse repair.
- **Case 5.** Distal urethral stenosis in adult.

References

1. Diokno AC: Epidemiology of Female Incontinence. In Raz S (ed): Female Urology, 2nd ed. Saunders, 1996, pp 73-79.
2. Groutz A et al.: The significance of the American Urological Association symptom index score in the evaluation of women with bladder outlet obstruction. J Urol 163: 207-11, 2000.
3. Braivas AG and Groutz A: Bladder Outlet Obstruction Nomogram for Women With Lower Urinary Tract Symptomatology. Neurourol Urodynam 9: 553-564, 2000.