

## VIDEOURODYNAMIC STUDY FOR CHRONIC VOIDING DYSFUNCTION IN YOUNG AND MID-AGE MEN

### Aims of Study

Chronic voiding dysfunction in young men was often misdiagnosed as chronic prostatitis. Vesical neck obstruction, pseudodyssynergia and impaired contractility have been reported as the major etiologies of voiding dysfunction in men less than 50 age of age.<sup>1</sup> We presented more detailed results of videourodynamic study in young and mid-age men with chronic voiding dysfunction.

### Methods

From 1998 to 2001, 84 young and mid-age men were referred to videourodynamic laboratory for assessment of chronic voiding dysfunction. Entry criteria included the presence of irritable or obstructive voiding symptoms at least 6 months and obstructive uroflow rate. Active urinary tract infection, chronic prostatitis, congenital diseases, neurological diseases, diabetic mellitus or chronic illness were excluded. The videourodynamic study was performed according to the recommendations of the International Continence Society.<sup>2</sup> A 5F suprapubic catheter was used to monitor the intravesical pressure.

The results of urodynamic findings were categorized into storage and voiding disorders. Storage phase disorders included detrusor instability, hypersensitive bladder, hyposensitive bladder and low compliance bladder. According to the differences of the obstructive location (bladder neck, prostate or external sphincter) on flurosocpy, activity of external sphincter electromyography (EMG) and detrusor pressure, voiding phase disorders included primary bladder neck obstruction (PBNO), benign prostate obstruction (BPO), dysfunctional voiding (DV or pseudodyssynergia), spastic bladder neck and external sphincter (SBNES), impaired detrusor contractility (IDC). Patients suspicious for neurological diseases by history and urodynamic diagnosis were referred to neurological clinic for further evaluation.

### Results

The patients' characteristics, symptomatology, prostate size and urodynamic diagnosis were summarized in table 1. 35 (42%) had dysfunctional voiding. 24 (29%) had primary bladder neck obstruction. 10 (12%) had obstruction in both the bladder neck and membranous urethra with increase external sphincter EMG (spastic bladder neck and external sphincter). 9 (11%) had impaired detrusor contractility. 4 (5%) had benign prostate obstruction. 2 (2%) patients in the groups of dysfunctional voiding were reclassified as detrusor external sphincter dyssynergia after identified neurological diseases. Detected neurological pathology included spinal lipoma in one and meningocele in 1. The mean age and prostate size in the groups of BPO were higher and larger than those of other groups respectively ( $p < 0.05$ ). The IPSS was highest and the QoL was poorest in the groups of IDC ( $p < 0.05$ ). The results of pressure-flow study were listed in table 2. The Pdetmax in the groups of SBNES and BPO were higher than others groups. The storage phase disorders were summarized in table 3.

Table 1: The patient characteristics, symptomatology, prostate size and urodynamic diagnosis

	All	DV	PBNO	SBNES	IDC	BPO	DESD
Patients number	84	35	24	10	9	4	2
Age	37.3	35.2	39.5	33.4	39	48	37.5
IPSS	18.8	20.4	16.7	15.7	24.8*	19.1	21.5
QoL	3.9	4.1	3.9	3	5*	3.6	4.5
Mixed symptoms	37	14	10	6	4	1	2
Irritative symptoms	34	15	11	3	4	1	0
Obstructive symptoms	13	6	3	1	1	2	0
Prostate size (ml)	24	24	23	21	25	38*	20

\* statistically significant

Table2: The results of pressure-flow study

	All patients	DV	PBNO	SBNES	IDC	BPO	DESD
Qmax (ml/sec)	11.8 ± 3.6	12.0 ; 3.9	12.7 ; 3.5	10.8 ; 3.7	11.2 ; 3.2	8.7 ; 3.0	9.7 ; 3.7
Capacity (ml)	294 ; 107	288 ; 118	293 ; 104	319 ; 143	321 ; 160	243 ; 97	262 ; 11
Pdetmax (cmH2O)	56.9 ; 11.7	56.6 ; 18.8	62.0 ; 13.8	72.4 ; 17.4*	18.1 ; 12.7	82.3 ; 13.0*	49.0 ; 13.5
BN opening time (sec)	21.1 ; 3.8	22.1 ; 8.6	24.8 ; 12.1	20.7 ; 4.4	19.8 ; 6.1	16.0 ; 5.2	17.0 ; 4.8
Residual urine (ml)	74 ; 65	54 ; 57	87 ; 14	111 ; 14	83 ; 59	37 ; 9*	100 ; 30

BN: bladder neck, \*: statistically significant

Table 3: The summary of storage phase disorders

	All patients	DV	PBNO	SBNES	IDC	BPO	DESD
patients number	84	35	24	10	9	4	2
Detrusor instability (%)	33 (39%)	9 (26%)	14 (58%)	4 (40%)	3 (33%)	3 (75%)	0
Hypersensitive bladder (%)	29 (34%)	13 (38%)	8 (33%)	3 (30%)	2 (22%)	2 (50%)	1 (50%)
Hyposensitive bladder (%)	5 (6%)	2 (6%)	0	2 (20%)	1 (11%)	0	0
Low compliance (%)	5 (6%)	1 (3%)	2 (8%)	1 (10%)	1 (11%)	0	0

### **Conclusions**

Videourodynamic study provided adequate diagnosis for chronic voiding dysfunction in young men. Spastic bladder neck and external sphincter and benign prostate obstruction were two possible additional etiologies comparing to the previous study. Formal neurological evaluation was advised in the subgroup of dysfunctional voiding.

### **Reference:**

1. Urology, 1996, 47: 836-839.
2. Neurourol. Urodyn., 1997, 16: 1-18.