

## PRESERVATION OF ANTEGRADE EJACULATION AND IMPROVEMENT OF VOIDING FUNCTION USING MODIFIED TRANSURETHRAL INCISION OF BLADDER NECK IN YOUNG MEN WITH PRIMARY BLADDER NECK OBSTRUCTION

### Hypothesis / aims of study

Primary bladder neck obstruction, diagnosed by the sophisticated videourodynamic study, has been recognized in 29% to 54% patients as one of the important causes of chronic lower urinary tract symptoms in young men.<sup>1</sup> Though  $\alpha$ -blockers were effective and safe for treating young men with primary bladder neck obstruction, it is unusual for young men to continue on  $\alpha$ -blockers with time. The most effective treatment of primary bladder neck obstruction is transurethral incision of the bladder neck that may result in retrograde ejaculation, a great concern of these sexually active young men. Thus, it is sensible to develop a surgical technique to improve lower urinary tract symptom without interfering sexual or ejaculation function. We reported the experiences with modified transurethral bladder neck incision in the treatment of young men's voiding dysfunction due to bladder neck obstruction.

### Study design, materials and methods

Between 2000 and 2004, we prospectively investigated the surgical outcomes of 33 young men with primary bladder neck obstruction. Before operation, multichannel vidourodynamic study conforms to the standards recommended by the International Continence Society, except where specified. Transurethral incision of bladder neck was performed under spinal anesthesia or intravenous sedation. We used a neodymium (Nd): YAG laser at a power ranging from 35 to 60W with SLT (Surgical Laser Technologies, Oaks, PA, USA) probes through a 25 Fr Storz single instrument port in a 30-degree wide-angle cystoscope. The bladder neck was incised and vaporized at 5 and 7 o'clock position. We started the incision near the ureteral orifice and carried downward to about 0.5 to 1.0 cm proximal to the verumontanum, thus part of the supramontanal prostate was preserved. After the procedure, all patients were catheterized with a 22Fr three-way urethral catheter that was removed on the following morning.

The I-PSS, QOL, uroflowmetry, post-void residual urine, the status of ejaculation were assessed before, 3 and 24 months after treatment. Sexual function was inquired before and 24 months postoperatively using the five-item version of the International Index of Erectile Function (IIEF-5). Patients without successful outcome received another videourodynamic study and cystoscopy.

### Results

Mean patient age was  $41.9 \pm 6.9$  (range 27 to 53). Mean pretreatment maximum detrusor pressure was  $61.8 \pm 29.9$  cm. water (range 30 to 141), mean maximum flow was  $10.6 \pm 3.5$  ml. per second (range 3.1 to 16.8), and mean prostate volume was  $23.0 \pm 5.8$  ml (range, 11 to 33). Detrusor overactivity was present in 13 patients (39.4%).

Table 1 showed the post operative available data in 32 (97%) and 26 (78.8%) patients at 3 and 24 months post-operatively treatment, respectively. Table 2 shows the objective results of therapeutic outcomes. Treatment was successful in 22 (84.6%) of 26 patients at 24 months postoperatively. Videourodynamic study in the 4 patients without successful outcomes showed detrusor overactivity in 2 and dysfunctional voiding in another 2.

### Interpretation of results

Transurethral incision of bladder neck is the definite treatment of primary bladder neck obstruction. In 1973, Turner-Warwick et al first described the concept of bladder neck incision. In 1996, Trockman et al reported that 87% overall improvement in symptoms was found after transurethral incision and confirmed that transurethral incision was the most effective treatment for primary bladder neck obstruction. Similar to previous reports, we observed that 84.6% of our patients with primary bladder neck obstruction were improved after endoscopic intervention during the 2-year followup.

Retrograde ejaculation, a serious concern in sexually active young men, can occur in 12-100% of patients after bilateral bladder neck incision. The presenting study showed that antegrade ejaculation could be completely maintained by preservation of a portion of the supramontanal prostate more than 0.5cm proximal to the verumontanum during transurethral incision of bladder neck. The contraction of both prostate capsule and supramontanal prostate can obstruct the return of seminal fluid to the bladder.

### Concluding message

Applied this modified transurethral incision of bladder neck to treat the sexually active young men with primary bladder neck obstruction had the advantages of preserving both antegrade ejaculation and sexual function, and improving voiding function as well.

Table.1

	Baseline	Postoperative 3 months	Postoperative 2 years
Patients (n)	33	32	26
IPSS			
Total	$20.7 \pm 5.4$	$6.9 \pm 5.9^*$	$8.7 \pm 4.7^*$
Irritative	$9.1 \pm 2.9$	$3.2 \pm 2.9^*$	$4.3 \pm 2.9^*$
Obstructive	$11.5 \pm 4.0$	$3.7 \pm 3.3^*$	$4.4 \pm 3.0^*$
Qaulity of life	$4.2 \pm 1.0$	$2.0 \pm 1.3^*$	$2.3 \pm 1.3^*$
IIEF	$22.6 \pm 2.6$	no data	$20.7 \pm 4.3$

Table 2.

	Baseline	Postoperative 3 months	Postoperative 2 years
Patients (n)	33	32	26
Voided volume (ml.)	304 ± 117	332 ± 150	326 ± 118
Max. flow (ml./sec.)	10.7 ± 3.7	20.6 ± 5.8*	19.2 ± 4.6*
Post-void residual urine (ml.)	107 ± 77	39 ± 31*	48 ± 25*
Voiding Efficiency	0.74 ± 0.17	0.89 ± 0.09*	0.87 ± 0.07*

References

1. Journal of Urology. 1994; 152; 2063-2065

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**HUMAN SUBJECTS:** This study was approved by the Ethics committee of En Chu Kong Hospital and followed the Declaration of Helsinki Informed consent was obtained from the patients.