

MODIFIED TRANSURETHRAL INCISION OF BLADDER NECK WITH ND:YAG CONTACT LASER IN THE TREATMENT OF PRIMARY BLADDER NECK OBSTRUCTION IN YOUNG MEN

Aims of Study

Transurethral incision of bladder neck (TUI-BN) has been proved as an effective and safe therapeutic modality in young men with primary bladder neck obstruction (PBNO). However, about 15% of retrograde ejaculation, a serious concern in young men, had been reported after standard TUI-BN.¹ Modified TURP, preserving prostatic tissue 0.5-1.0 cm proximal to verumontanum, has been reported to improve voiding function and preserve sexual function, especially antegrade ejaculation.² Nd:YAG contact laser provides precise incisions and prevents unexpected electrical injury to tissues around incision. Combine these two concepts; we develop the modified TUI-BN in the treatment of young men with PBNO diagnosed by videourodynamic study.

Methods

Between 1998 and 2000, 19 men (age 37.6 ± 8.2 , range 18 to 55) with PBNO underwent modified TUI-BN. The diagnostic criteria of PBNO included narrowing only at the vesical neck on fluoroscopic voiding cystourethrogram, relaxed external sphincter electromyography during voiding and no distal urethral obstruction. Associated findings were sustained detrusor contraction during voiding ($P_{det} = 20 \text{ cmH}_2\text{O}$), $Q_{max} = 15 \text{ mL/s}$ and obstructive flow pattern. Nd:YAG contact laser was used, instead of electric cutting, to incise the bladder neck and prostate with the modified Orandi's technique of transurethral incision of prostate.³ The incision line was vaporized to a 3-5 mm trough. The prostatic tissue 0.5 -1.0 cm proximal to the verumontanum was preserved during the procedure. Foley catheter was removed at noon on the first postoperative day, and the patient was discharged on the second postoperative day if he could void without assistance. The status of ejaculation, sexual function, International Prostate Symptom Score (IPSS), quality of life (QOL), uroflowmetry and post-void residual urine were assessed before and 6 months after treatment.

Results

Mean follow-up period was 10.1 ± 3.6 months. The mean hospital day was 1.2 ± 0.5 days. No transfusion was needed. No immediate complication related with this operation was reported. The follow-up data were listed in table 1. IPSS and QOL decreased from 17.4 to 4.7 and 4.2 to 1.9, respectively ($p < 0.01$). Peak flow rate increased from 12.7 to 20.9 ($p < 0.01$), and residual urine volume decreased from 122 to 39 ($p < 0.01$). No erectile dysfunction was reported after the operation. Antegrade ejaculation was preserved in all patients.

Table 1: The therapeutic results after modified TUI-BN

	pre-treatment	post-treatment	p
IPSS	17.4 ± 5.8	4.7 ± 1.3	<0.01
QOL	4.2 ± 1.2	1.9 ± 0.6	<0.01
Peak flowrate (cm/sec)	12.7 ± 2.3	20.9 ± 3.6	<0.01
Residual urine (mL)	122 ± 36	39 ± 31	<0.01
P_{detmax} (cmH ₂ O)	61.4 ± 18.1	not checked	
Bladder neck opening time (sec)	22 ± 10.4	not checked	

Conclusions

Our modifications of TUI-BN with Nd:YAG contact laser successfully improved voiding function and preserved sexual function, especially antegrade ejaculation.

Reference:

1. J. Urol., 1990; 144: 694-696
2. Br. J. Urol., 1998; 81: 830-833
3. Urol. Clin. North Am., 1990; 17: 601-612