

## LONG-TERM URODYNAMIC FOLLOW-UP AFTER EXTERNAL SPHINCTEROTOMY IN PATIENTS WITH SPINAL CORD INJURY

### Hypothesis / aims of study

Although external sphincterotomy (ES) is an accepted therapeutic option for male patients with detrusor-sphincter dyssynergia (DSD) due to spinal cord injury (SCI) [1], some patients fail and need to change their lower urinary tract management after ES [2]. Detrusor function has been reported to be one of the potential causes of failure of this procedure. However, long-term urodynamic follow-up data after ES are still lacking. In the present study, we reviewed the urodynamic data before and after ES and analyzed for possible causes of failure of this procedure.

### Study design, materials and methods

A total of 39 patients who had been followed up at our spinal injuries centre for at least 5 years after ES were included. Mean follow-up period was 16.0 years and 9 patients received second ES. ES was performed using an electrocautery with an incision at the 12-o'clock position from the midprostatic urethra through the bulbomembranous junction. Urodynamic assessment was routinely performed every 2 or 3 years after ES. We reviewed and analyzed them before and after ES (before ES and 1-, 3-, 5-, 10-, 15-, 20 year after ES).

### Results

Of the 39 patients, 29 were successfully followed up after ES (success group) and 9 failed and needed to change their lower urinary tract management (failure group). Major reason for failure was the deterioration of autonomic dysreflexia (AD) due to elevated post-void residual urine (PVR). In urodynamic parameters, mean maximum bladder pressure (MBP) was gradually decreased from  $76.2 \pm 5.2$  cmH<sub>2</sub>O before ES to  $62.4 \pm 4.2$  cmH<sub>2</sub>O,  $42.2 \pm 5.3$  cmH<sub>2</sub>O and  $32.0 \pm 4.2$  cmH<sub>2</sub>O at 5-, 10- and 20-year after ES, respectively (Fig.1). However, mean bladder volume at first detrusor overactivity (VDO) was gradually increased from  $203 \pm 25$  ml before ES to  $243 \pm 22$  ml,  $283 \pm 22$  ml and  $313 \pm 30$  ml at 5-, 10- and 20-year after ES, respectively (Fig.2). In addition, the percentage of patients without DO was gradually increased from 13% before ES to 18%, 33% and 42% at 5-, 10- and 20-year after ES, respectively (Fig.2). The percentage of patients without urine leakage during cystometry was also increased from 7.1% just after ES to 45%, 44% and 50% at 5-, 10- and 20-year after ES, respectively. In the preoperative urodynamic findings, mean MBP in success group ( $84.1 \pm 5.8$  cmH<sub>2</sub>O) was significantly higher than that in failure group ( $49.9 \pm 8.5$  cmH<sub>2</sub>O).

### Interpretation of results

These results indicate that: (1) MBP is gradually decreased after ES, (2) DO, a driving power for voiding in SCI patients after ES, is gradually decreased after ES, and (3) mean MBP in success group is significantly higher than that in failure group.

### Concluding message

These results suggest that the decrease of DO after ES might be one of the reasons for failure after ES and low preoperative MBP might be a poor prognostic factor of ES.

Fig.1

### Maximun bladder pressure after ES

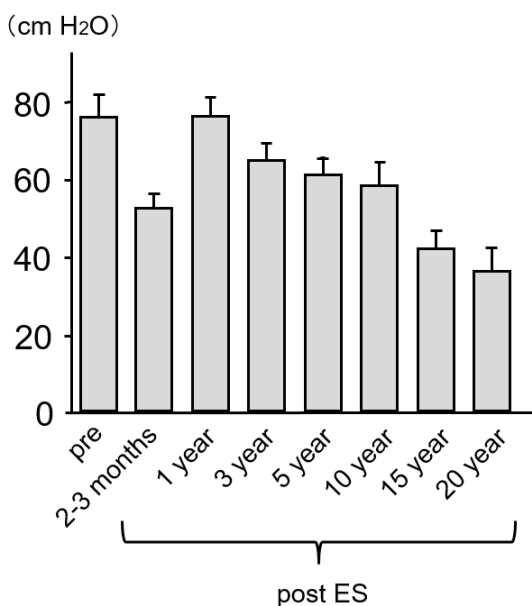
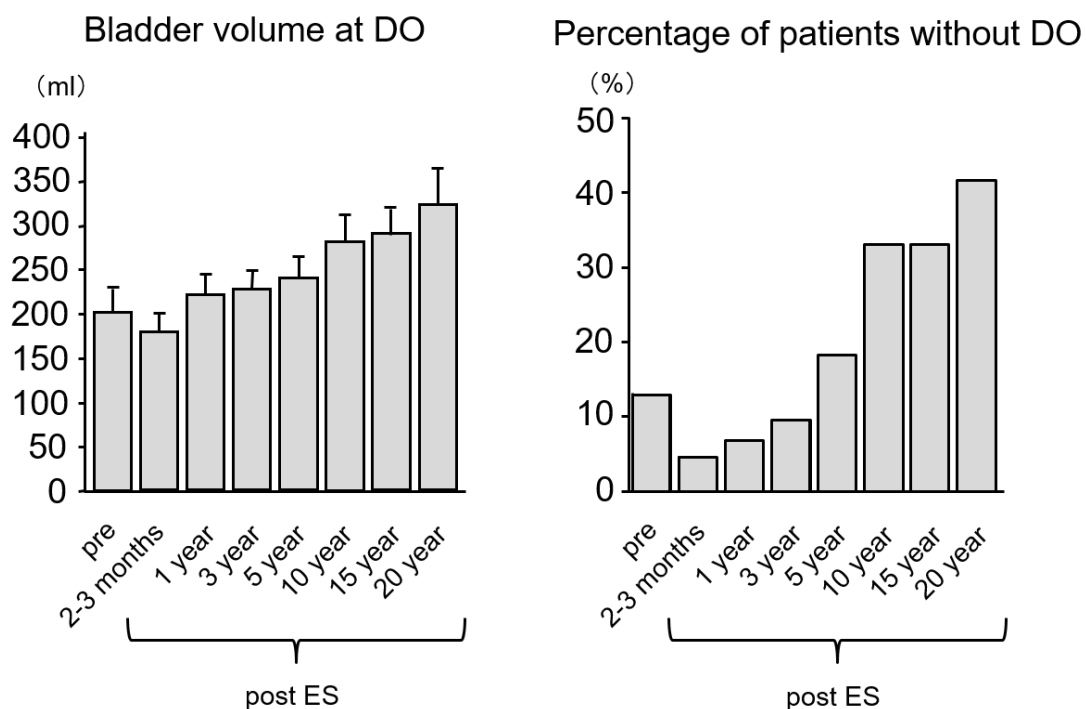


Fig.2



References

1. Stoffel JT, Transl Androl Urol 5(1): 127-135, 2016
2. Vainrib M, Reyblat P, Ginsberg DA, Urology, 84: 940-945, 2014

Disclosures

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