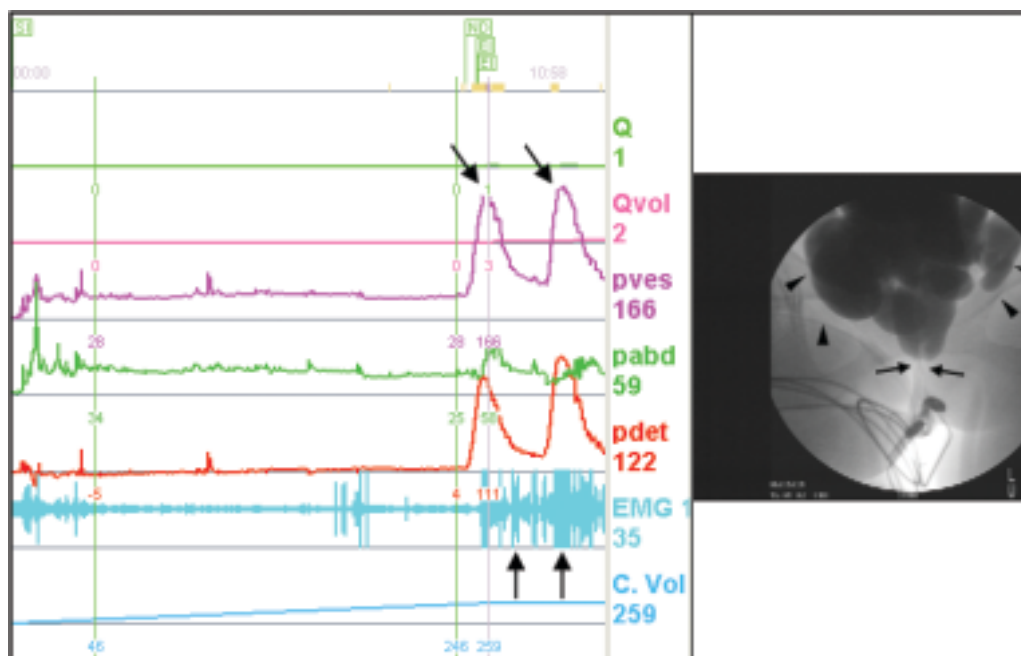


## Spastic Urethral Sphincter and Chronic Urinary Retention in a Girl

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### BRIEF HISTORY

A 20-year-old girl had chronic urinary retention since she was 8 years old. She was found to have a urinary tract infection and received surgery twice for her bladder diverticula. However, she could not urinate after the first surgery and was instructed in clean intermittent self-catheterization (CISC), which she did 4 to 5 times a day to empty her bladder.

### CLINICAL INVESTIGATION

Urinalysis was negative. Cystoscopy revealed a tight urethral sphincter with edematous mucosa and a trabeculated bladder wall. Neurological examination revealed normal neuroaxis but the anal tone was very high. The functional bladder capacity was around 200 mL. She was treated with urethral botulinum toxin A injection three times but the therapeutic outcome was not very good. Therefore, she was instructed to continue with the CISC periodically.

### VIDEOURODYNAMIC FINDING

Videourodynamic study (VUDS) revealed detrusor overactivity and high voiding pressure during detrusor contractions (arrows). There were multiple bladder diverticula found on a cystourethrogram (arrow heads). The bladder neck and proximal urethra were open during bladder filling and voiding phases. However, the middle of the urethra was obstructed during voiding (arrows). Urethral sphincter electromyographic (EMG) activity increased during voiding (arrows). The patient could only void a few drops of urine at the maximal voiding pressure.

### CLINICAL DIAGNOSIS AND MANAGEMENT

This patient had a spastic urethral sphincter with complete bladder outlet obstruction. The urethral sphincter spasticity was too severe to be treated with medication or biofeedback. Urethral injection of botulinum toxin A was likely to be effective but only partial improvement was noted after 3 times of urethral injection. CISC is the best way to treat her chronic urinary retention. If the bladder capacity progressively decreases with time, augmentation cystoplasty may be helpful.