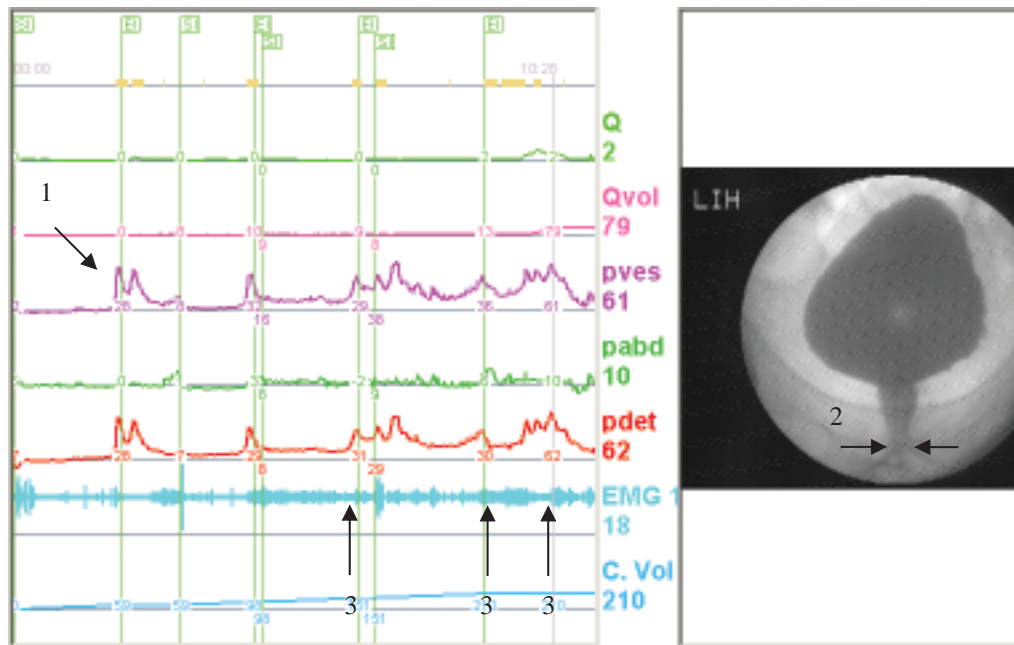


Spinal Cord Injury with Detrusor Sphincter Dyssynergia

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BRIEF HISTORY

A 26 year-old man had a cervical spinal cord injury (SCI) and complete C5 tetraplegia for 5 years. He suffered from urinary incontinence and frequent urinary tract infections. Occasional autonomic dysreflexia causing hypertension, headache and hyperreflexia of the extremities was also noted.

CLINICAL INVESTIGATION

The patient was wheelchair bound. He wore a diaper for urinary incontinence. There were no pressure sores over the buttocks. The bulbocavernosus reflex was intact.

URODYNAMIC STUDY

A videourodynamic study was done using a 6 Fr transurethral double-lumen catheter and an 8 Fr rectal tube and surface patch electromyography (EMG). The infusion rate was 30 mL/min. During the fill-

ing phase, intermittent detrusor overactivity (DO) with increased urethral sphincter EMG activities was noted. The volume at the first uninhibited detrusor contraction was 55 mL (1). The bladder neck and proximal urethra were open, but the urethral sphincter was narrow (2). At a bladder capacity of 210 mL, patient started to urinate by abdominal tapping. The voiding detrusor pressure was 49 cm water, the maximum flow rate (Qmax) was 5 mL/s, the voided volume was 106 mL, and the postvoid residual (PVR) was 110 mL. Dyscoordinated urethral sphincter activities were noted at each detrusor contraction (3).

DIAGNOSIS AND MANAGEMENT

Because the patient had a high level cervical SCI, his hand function was lost, so clean intermittent self-catheterization is not feasible. We can choose urethral sphincter botulinum toxin A (BTX-A) injection to reduce urethral resistance or intravesical BTX-A to increase the bladder capacity and reduce high intravesical pressure. Intravesical resiniferatoxin instillation can also be used to treat his DO.