Urinary Incontinence and Dysuria in a Patient with a Spinal Cord Lesion

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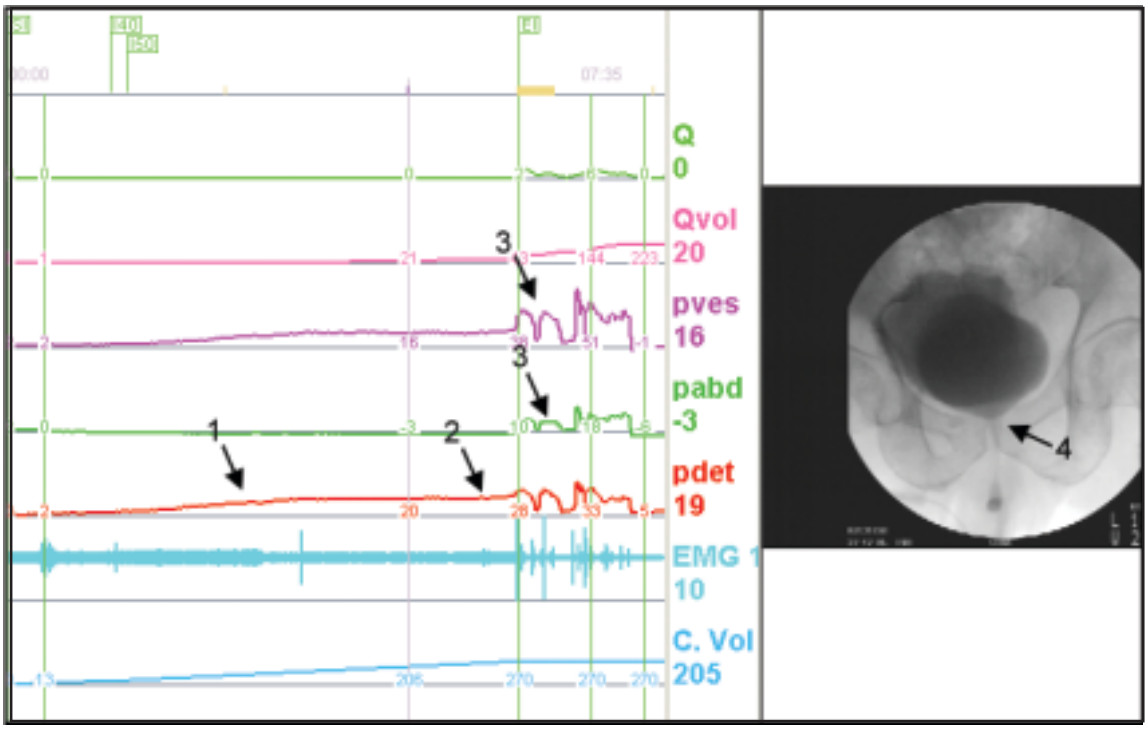

BRIEF HISTORY

A 63 year-old male patient with thoraco-lumbar spondylosis developed complete paraplegia after surgery. He had difficult urination with straining to void and constipation for 1 year and occasional urinary retention.

CLINICAL INVESTIGATION

The patient was a paraplegic and was wheelchair bound. The sensation below T10 had been lost and no motor function was detected. An electrophysiology study revealed an impaired sacral cord reflex and denervation changes in the urethral striated sphincter.

VIDEOURODYNAMIC FINDINGS

Urodynamic study revealed no detrusor contractility or sensation of bladder filling during the filling phase (arrow 1). The bladder compliance was fair and urine leakage was noted at a detrusor pressure rise to 16 cm water at a volume increase to 270 mL (arrow 2). The patient used abdominal pressure to void and a low maximum flow rate of 6 mL/s was noted. The voiding intravesical pressure was only 31 cm water. No detrusor contractions were elicited on abdominal straining (arrow 3). During the voiding phase, the bladder neck and urethral sphincter were open (arrow 4). The voided volume was 223 mL and postvoid residual (PVR) was 50 mL.

CLINICAL DIAGNOSIS AND MANAGEMENT

These videourodynamic findings demonstrate cauda equina lesion with impairment of both the detrusor and pudendal nucleus resulting in detrusor underactivity and an intrinsic sphincter deficiency. The bladder compliance is fair and the detrusor leak point pressure is low. Although urinary incontinence is a problem, it may protect the upper urinary tract from high pressure insult. The patient should be instructed to empty his bladder using the Crede maneuver on a set schedule. Medication with an alpha-adrenergic agonist may increase the urethral resistance and decrease urinary leakage episodes, but the PVR should be monitored. Surgical intervention or an irreversible procedure to increase bladder outlet resistance such as suburethral sling should be considered carefully because the voiding efficiency might be affected.