Hesitancy and Small Caliber of Urine Refractory to Alpha-blocker Therapy

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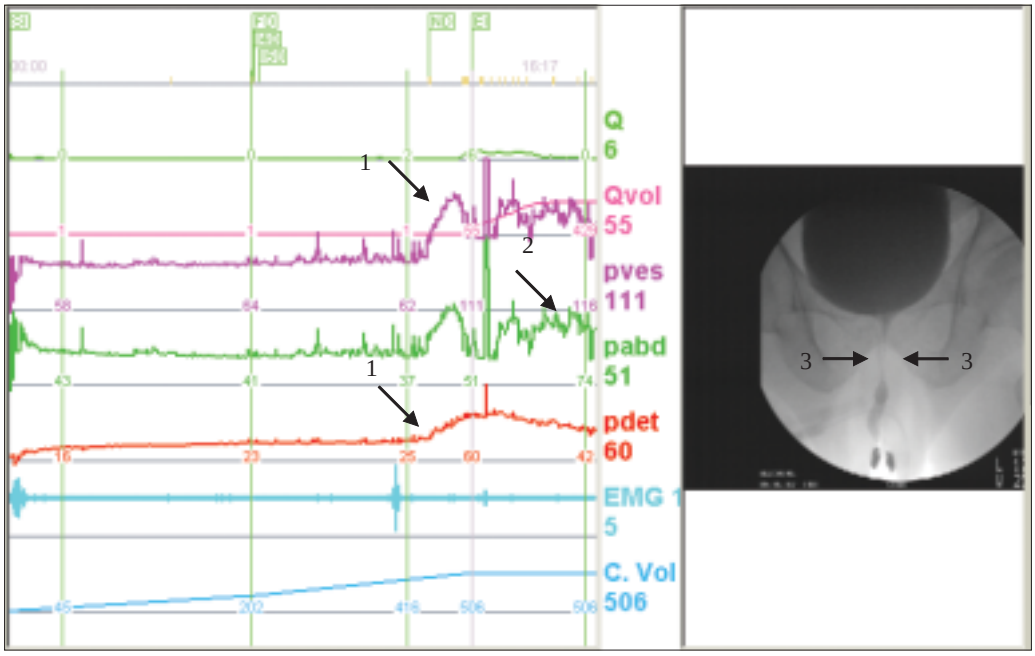

BRIEF HISTORY

A 57-year-old man had lower urinary tract symptoms of hesitancy, small caliber of urine and residual urine sensation for more than 1 year. He did not have frequency, urgency or difficult urination. He had been treated for benign prostatic hyperplasia (BPH) using alpha-blockers and 5-alpha-reductase inhibitors for 6 months but the treatment had failed.

CLINICAL INVESTIGATION

The patient was physically healthy and had normal results on urinalysis. Digital rectal examination revealed no enlarged prostate. Transrectal sonography of the prostate revealed that total prostate volume was 28 mL and the transition zone index was 0.34. A free uroflowmetry revealed the maximum flow rate (Qmax) was 12.4 mL/s and the voided volume was 542 mL, but post-void residual (PVR) was 167 mL. The uroflowmetry also showed a terminal dribble flow pattern.

URODYNAMIC STUDY

A videourodynamic study revealed a stable bladder with large cystometric capacity (volume= 506 mL) and normal bladder sensation (first sensation at 204 mL and full sensation at 416 mL). At initiation of micturition, he used abdominal straining to void and detrusor pressure (Pdet) increased slowly (1). Qmax was 7 mL/s, voided volume was 429 mL, PVR was 100 mL, and Pdet at Qmax was 36 cm water. During the terminal voiding phase he still used abdominal pressure to void (2). The voiding cystourethrography showed an open bladder neck and narrow urethra throughout the voiding phase (3).

CLINICAL COURSE AND COMMENT

This patient can be classified as urethral dysfunction without bladder outlet obstruction. The Qmax was low but the voiding pressure was normal, therefore bladder outlet obstruction due to BPH does not exist. Hypertonicity of the urethral muscles caused poor relaxation of the bladder outlet and further inhibited detrusor contractility during voiding. Biofeedback pelvic floor exercises and medication with baclofen to relax the striated urethral muscles might be helpful in this case. If all treatment methods fail, urethral injection of botulinum toxin A might be an alternative choice of treatment.