

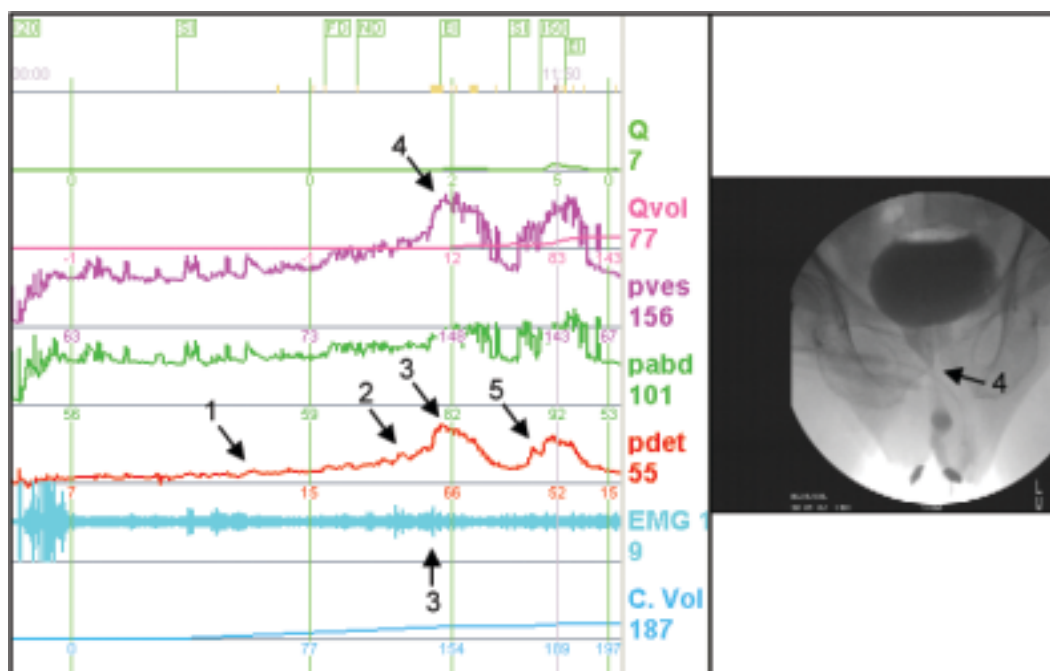
## Guarding Reflex Mimicking Bladder Outlet Obstruction in a Man

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### BRIEF HISTORY

A 74 year-old man had undergone transurethral resection of the prostate 5 years previously. In the past year, severe frequency urgency and occasional urge incontinence occurred. However, no difficulty in urination or micturition pain was noted. An antimuscarinic agent (Detrusitol 4 mg QD) failed to relieve his lower urinary tract symptoms.

### CLINICAL INVESTIGATION

The maximum flow rate (Qmax) was 11.5 mL/s, voided volume was 154 mL and postvoid residual (PVR) was 15 mL. There was no neurological sign and transrectal sonography of the prostate revealed a small prostate with an open bladder neck and prostatic urethra.

### URODYNAMIC FINDING

During videourodynamic study, several phasic detrusor contractions occurred during the bladder filling phase. The patient felt urgency and could inhibit urination well (arrow 1). At a bladder volume of 100 mL, the detrusor contractions increased in amplitude and bladder compliance became poor (arrow 2). When the patient was advised to void, the detrusor pressure was 62 cm water and the external sphincter ac-

tivity was still hyperactive (arrow 3). During the voiding phase, the bladder neck and prostatic urethra were open but the Qmax was low (arrow 4). We performed a second pressure flow study and instructed him to urinate without any voluntary inhibition whenever he felt urgency (arrow 5). During this study, the voiding detrusor pressure was decreased to 46 cm water and the Qmax was 7 mL/s with a PVR of 50 mL. Voiding cystourethrography revealed no bladder outlet obstruction.

### CLINICAL DIAGNOSIS AND MANAGEMENT

The repeat pressure flow study revealed a decreased detrusor pressure under a condition without voluntary inhibition. The high voiding pressure in the first pressure flow study was due to guarding inhibition of the urethral sphincter, causing a non-relaxing urethral sphincter and isovolumetric detrusor contractions. This guarding inhibitory effect is frequently encountered in patients with intracranial lesions such as cerebral vascular accident or Parkinson's disease. When the patient felt uninhibited detrusor contractions and tried to inhibit micturition, the external urethral sphincter contracted forcefully. During the attempt to void, sphincter relaxation could not be adequately achieved, resulting in a condition mimicking bladder outlet obstruction. The best treatment for this patient would be intravesical treatment with resinerferatoxin or botulinum toxin A to reduce detrusor contractions.