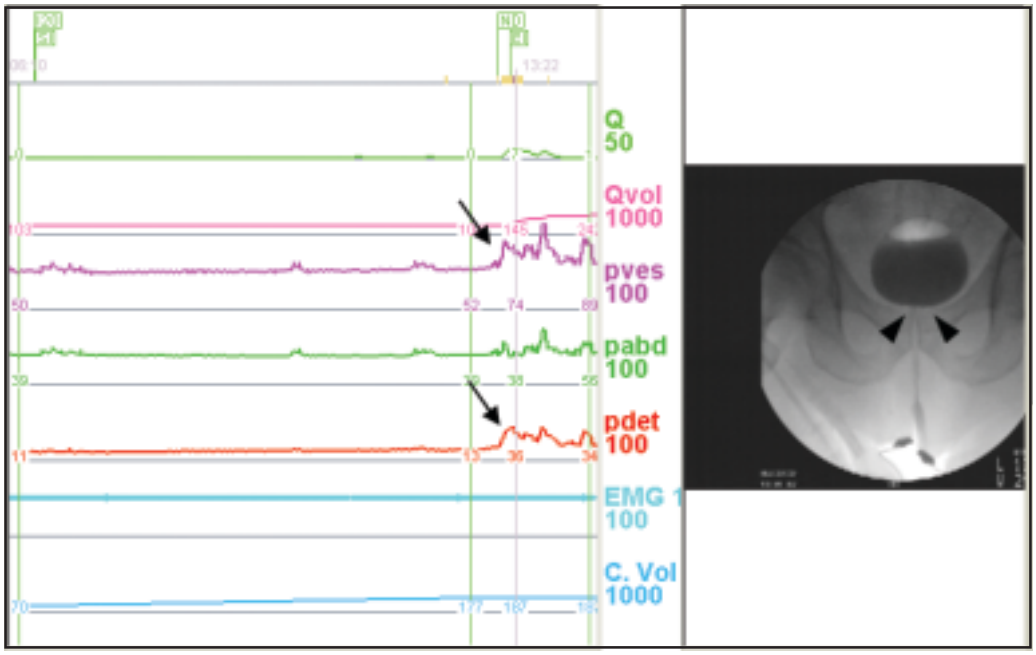
Detrusor Overactivity in a Male Patient with Lower Urinary Tract Symptoms and Cerebrovascular Accident

Hann-Chorng Kuo, M.D.

Department of Urology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan; E-mail: hck@tzuchi.com.tw



BRIEF HISTORY

A 69-year-old man had lower urinary tract symptoms (LUTS) for 3 years. He also had a minor cerebrovascular accident (CVA) 5 years prior to this admission. He had been treated with alpha-blocker for his LUTS suggestive of benign prostatic hyperplasia (LUTS/BPH). The LUTS included frequency, small urinary caliber, urgency incontinence and nocturia 4-5 times per night. However, his LUTS were refractory to medication for LUTS/BPH.

CLINICAL INVESTIGATION

The free uroflowmetry revealed the maximum flow rate (Qmax) was 14 mL/sec at voided volume of 113 mL without postvoid residual (PVR). The prostate volume was 22.5 mL and the transition zone index was 0.43. Prostatic specific antigen (PSA) was 5.29 ng/mL. Urinalysis results were negative. Since the PSA value was higher than the normal range, he received a prostatic biopsy and the results showed nodular hyperplasia.

VIDEOURODYNAMIC STUDY

The urodynamic results showed the first sensation of filling was at 117 mL and the bladder capacity was small (138 mL) without uninhibited detrusor contraction during bladder filling but uninhibited detrusor contraction occurred when the bladder capacity had reached (arrows). The voiding detrusor pressure was 24 cm water, Qmax was 7 mL/s and PVR was 0 mL. The voiding cystourethrography revealed a mildly narrow bladder neck without prostatic obstruction (arrow heads).

COMMENTS AND MANAGEMENT

The detrusor overactivity could be due to previous CVA which resulted in poor inhibition of the detrusor contraction at bladder capacity. Most of patients with CVA have a small bladder capacity because of neuromodulation after the stroke. There was no uninhibited contraction during the bladder filling because the detrusor function does not change after CVA. However, because the bladder capacity was small the patient did not have a normal Qmax in free uroflowmetry. Pressure flow study can show a normal voiding pressure suggestive of non-obstruction. Antimuscarinics have been helpful in increasing the bladder capacity. Since the patient did not have bladder outlet obstruction, it is not possible to induce difficult bladder emptying after antimuscarinic treatment.