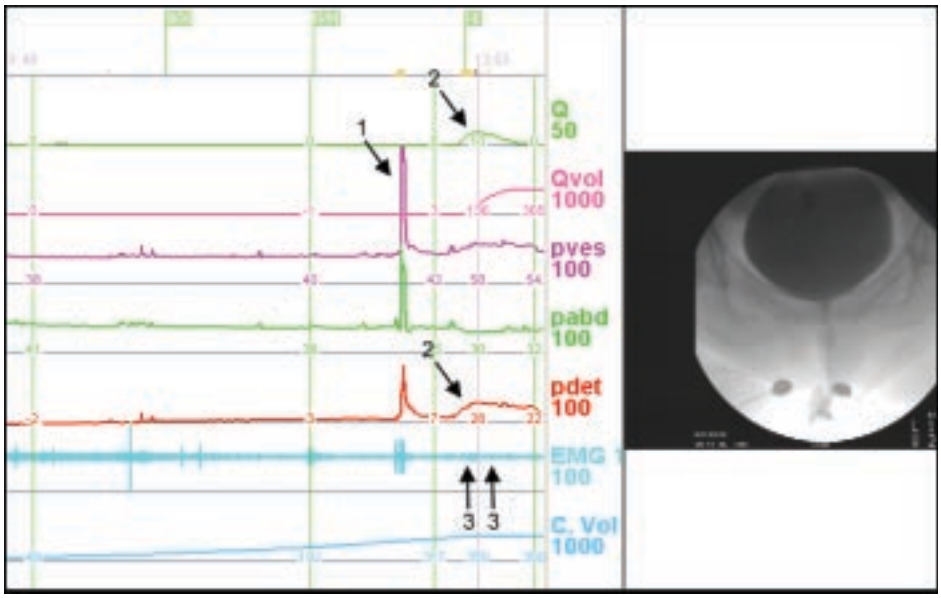
Incont Pelvic Floor Dysfunct 2012; 6(4):108

Low Detrusor Contractility without Bladder Outlet Obstruction in a Woman with Lower Urinary Tract Symptoms

Hann-Chorng Kuo, M.D.*
Department of Urology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan

**Correspondence: Department of Urology, Buddhist Tzu Chi General Hospital, 707, Section 3, Chung-Yang Road, Hualien, Taiwan*
E-mail: hck@tzuchi.com.tw



BRIEF HISTORY

A 67 year-old woman who had frequency, a slow stream and a residual urine sensation was referred to the urological department for management. The woman had been quite healthy in the past 5 years. She had no history of previous surgery or medical diseases such as diabetes or hypertension. She brought a voiding diary, which showed daytime frequency with 10 to 12 voids and night time frequency with 2 to 3 voids. She reported no urgency, or incontinence episodes in the voiding diary.

CLINICAL INVESTIGATION

Physically, no abnormality was found in her genitourinary system. The bulbocavernous reflex was intact and she could contract her pelvic floor muscles voluntarily. A urinalysis showed no abnormalities and bladder sonography also revealed a smooth bladder wall with a normal thickness. The postvoid residual (PVR) volume was minimal.

URODYNAMIC FINDING

Videourodynamic study revealed a first sensation of bladder filling at 192 mL, a fullness sensation at 317 mL and an urge sensation at 350 mL. No involuntary detrusor contractions occurred during the filling phase. Coughing (arrow 1) did not induce involuntary detrusor contractions. At bladder capacity, the patient could urinate spontaneously with a sustained detrusor contraction and normal voiding detrusor pressure (arrows 2). However, the maximum flow rate was low (Qmax, 10 mL/s) and the voided volume was 365 mL, with a minimal PVR. Urethral sphincter electromyography showed poor relaxation during voiding (arrows 3). Voiding cystourethrography also showed an open bladder neck and urethra, with a narrowing in the distal urethra during voiding.

CLINICAL DIAGNOSIS AND MANAGEMENT

The cause for her slow stream is likely to be poor relaxation of the pelvic floor muscles. During voiding, the poorly relaxed pelvic floor muscles might inhibit detrusor contractility by modulating the detrusor nucleus activity in the sacral cords reflex arc. There was no detrusor overactivity or bladder outlet obstruction. Therefore, the low Qmax might be caused by low detrusor contractility (although the voiding pressure was normal) caused by increased pudendal afferent activity (from a guarding reflex of the pelvic floor muscles). Exercises to relax the pelvic floor muscles, and therefore, release the inhibitory effect of detrusor nucleus activity, might improve her voiding condition without any medication.