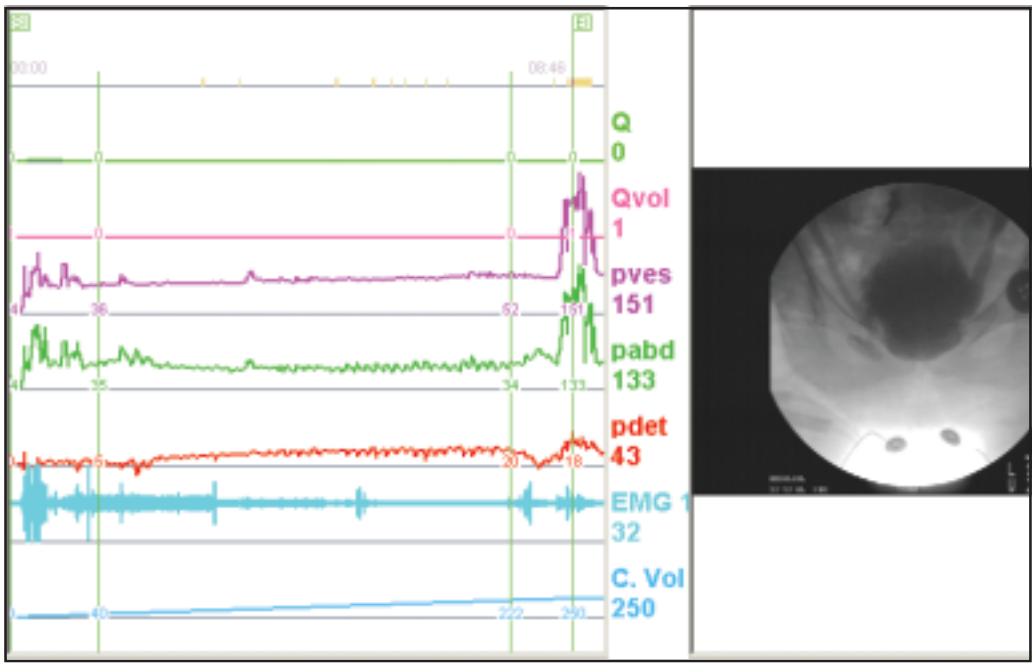
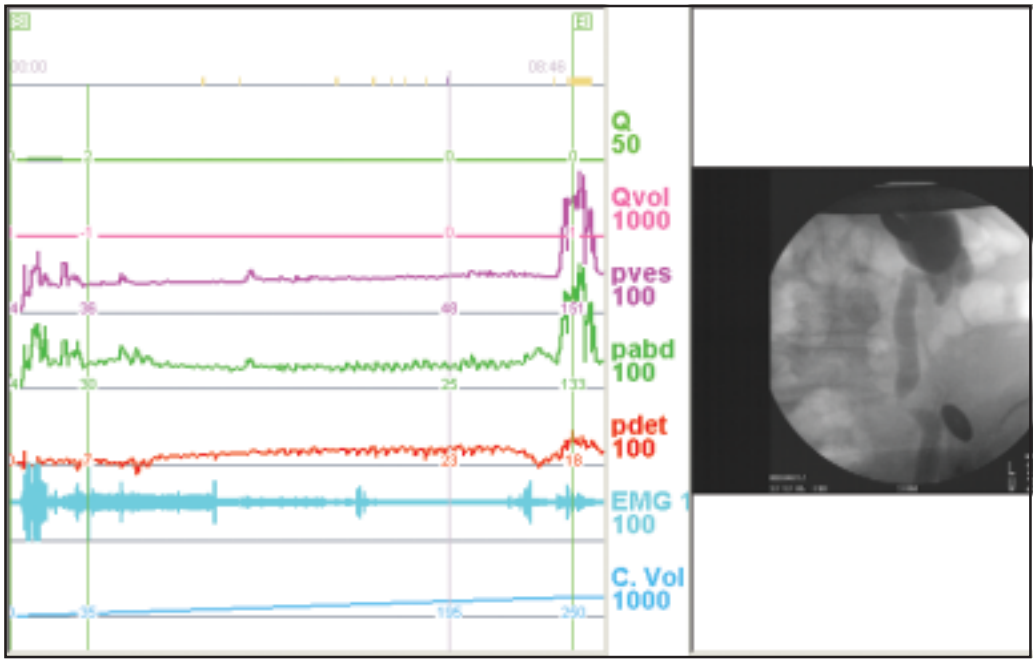
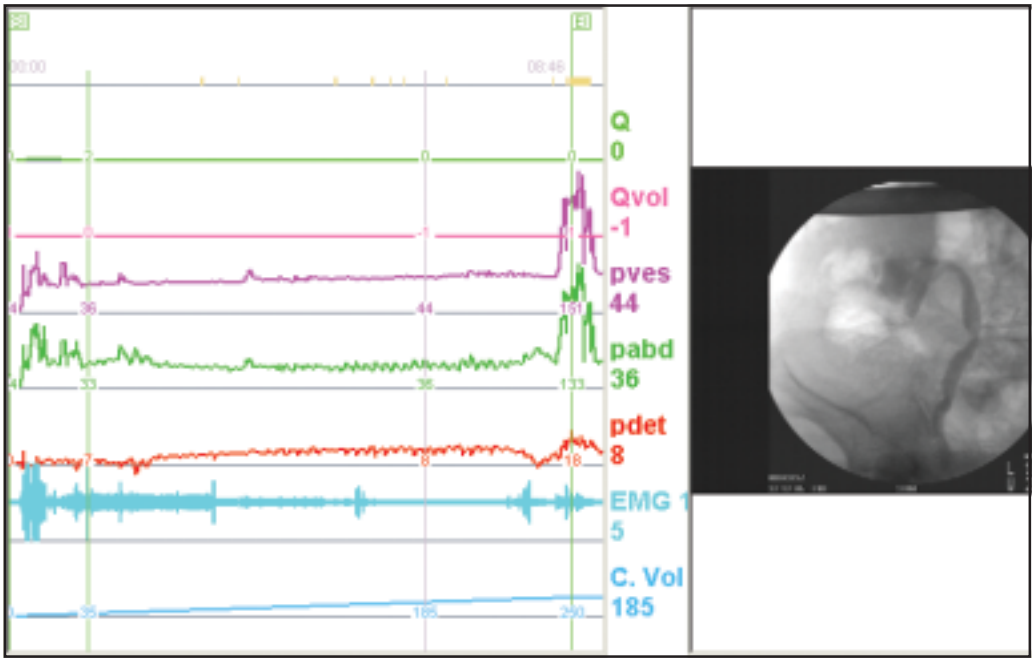
Detrusor Underactivity with a Contracted Bladder and Bilateral Vesicoureteral Reflux

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 woman underwent a radical hysterectomy for cervical cancer 30 years previously and had urinary incontinence over the past 5 years. She experienced impaired bladder sensation and difficult urination since the hysterectomy and had chronic constipation. After a detailed examination, detrusor underactivity and intrinsic sphincter deficiency (ISD) were noted and an antimuscarinic was given to reduce intravesical pressure. However, in the previous month, her difficult urination exacerbated and she was found to have bilateral hydronephrosis. An indwelling catheter was placed in the emergency department.

CLINICAL INVESTIGATIONS

The bladder was not distended and bilateral moderate hydronephrosis was noted on renal sonography. Urinalysis showed nothing abnormal.

URODYNAMIC FINDINGS

Videourodynamic study was done using a 6 Fr transurethral double-lumen catheter, 8 Fr rectal tube and surface patch electromyography (EMG). The infusion rate was 30 mL/min. The first sensation of bladder filling was perceived at 222 mL, with full sensation at 250 mL. During the filling phase, a bilateral grade 3-4/5 vesicoureteral reflux was found. The bladder compliance was fair (14-15) and no uninhibited detrusor contraction was noted. Cystography revealed the bladder was contracted and the bladder neck as well as the urethral sphincter was closed. She could not void by abdominal straining and the EMG was not relaxed during voiding.

CLINICAL DIAGNOSIS AND MANAGEMENT

The videourodynamic study revealed detrusor underactivity with a non-relaxing bladder neck and urethral sphincter. Because there was bilateral vesicoureteral reflux, the intravesical pressure did not rise during the filling phase. The patient could not urinate because most of the increased abdominal pressure was absorbed by the dilated renal pelvis. This is a typical neurogenic bladder dysfunction due to pelvic plexus injury after radical hysterectomy. The fair bladder compliance might be mistaken for a stable bladder if videourodynamic study was not performed. The patient should be treated with an indwelling catheter or clean intermittent sterile catheterization to periodically evacuate her bladder, otherwise progressive renal insufficiency might ensue. Enterocystoplasty is a good method to treat a contracted bladder and bilateral vesicoureteral reflux.