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Video Demonstration

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Institution City Country	Rush-Presbyterian-St.Lukes Medical Center, Chicago, IL, USA Double Spacing
Title (type in CAPITAL LETTERS)	THE ETIOLOGY OF URINARY RETENTION AFTER SURGERY FOR GENUINE STRESS INCONTINENCE.

Aims of Study:

Transient urinary retention after incontinence surgery is a common, costly and distressing problem for our patients. The underlying pathophysiology is not well understood. In order to adequately study the phenomenon of postoperative urinary retention, we obtained instrumented voiding trials in the early postoperative period.

Methods:

Patients with normal voiding prior to their surgery for stress incontinence were candidates for inclusion in our pilot study. Normal voiding was documented by a normal preoperative postvoid residual urine volume, co-ordinated urethral relaxation and detrusor contraction, and needle electromyographic (EMG) silencing of the urethral sphincter during preoperative voiding studies. Patients scheduled to undergo either a Burch colposuspension or a suburethral sling procedure for genuine stress incontinence at our center were approached to join this study. Patients were excluded if they had elevated postvoid residual volumes before surgery, had detrusor-sphincter dyssynergia prior to surgery, had relevant neurological disease or were unable to give informed consent. All patients had a suprapubic catheter placed at the time of surgery. In addition two unipolar hook-wire electrodes (Life-Tech, Houston, TX, USA) were placed periurethrally at 3 and 9 o'clock at the end of the procedure while the patient was still under anesthesia. The electrodes were then secured, either by taping to the patient's lower abdomen, or by wrapping the electrodes around foam cylinders and placing them in the vagina. On postoperative day 1 or 2, the patient's bladder was filled with 200-300cc room-temperature saline through the suprapubic catheter. A 4Fr bladder pressure catheter (Life-Tech, Houston, TX) was then introduced into the bladder through the suprapubic catheter, and connected to a single-channel cystometrographic recorder. The EMG electrodes were recovered and used to display an EMG of the urethral sphincter (figure 1). The patient was then asked to void. Urethral sphincter EMG and bladder pressures were recorded (Figure 2). All patients had undergone general anesthesia for their procedures, and were using oral narcotic agents for analgesia at the time of the voiding trials.

Results:

Ten subjects were recruited as part of a pilot study. Seven patients had undergone placement of a suburethral sling, and three had undergone Burch colposuspension. The study was successfully accomplished in seven subjects. In three subjects, the recording electrodes had been taped to the lower abdomen and had become dislodged prior to the voiding study. Two patients voided

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normally, with quieting of the urethral sphincter EMG and detrusor contraction. Three patients were unable to void at all, and demonstrated no urethral sphincter EMG quieting. Two of those patients demonstrated detrusor-sphincter dyssynergia (DSD), one with complex repetitive discharges seen on EMG. Finally, two patients demonstrated DSD while voiding 50-200cc volume. All patients eventually resumed normal voiding by clinical parameters, 1-14 days after surgery.

Conclusions:

It is possible to perform voiding trials including urethral sphincter EMG studies in the early postoperative period without causing patient discomfort. DSD underlies the clinical problem of postoperative urinary retention in many patients. This is the first description of presumably reversible DSD which appears to arise at the time of surgical treatment of stress urinary incontinence.

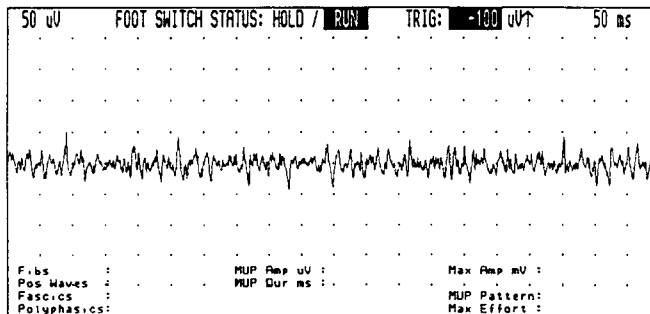


Figure 1: Urethral sphincter needle EMG recording.

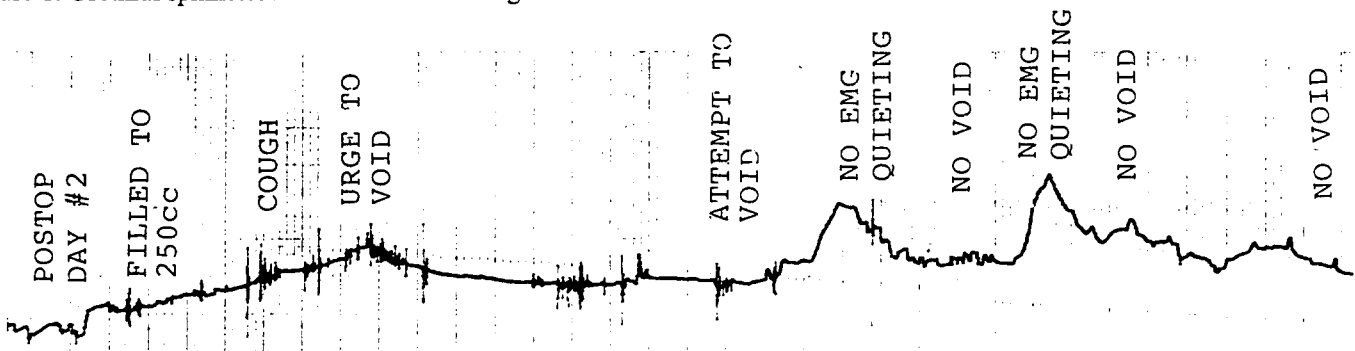


Figure 2: Intravesical pressures during voiding trial.