

URODYNAMIC EVALUATION AND SPHINCTERIC FUNCTION BEFORE AND AFTER SURGERY IN WOMEN WITH ORTHOTOPIC BLADDER REPLACEMENT

Aims of Study

New anatomic concepts in female pelvis with attention to the innervation of the pelvic musculature and urethral sphincter have provide a better understanding in orthotopic reconstruction. We conducted a clinical study to evaluate the mechanism of continence in women following orthotopic bladder replacement.

Methods

15 women, with bladder cancer, ages from 58 to 78 yrs (mean 65 yrs) underwent radical cystectomy and diversion as orthotopic reservoir using detubularized ileum. An attempt was made to preserve partially the anterior vaginal vault. Lateral dissection was minimal and the endopelvic fascia and pubourethral ligaments are left intact to preserve the somatic innervation of the striated portion of intrinsic sphincter.

Pre-operative evaluation showed no pts with positive history of stress incontinence; physical examination demonstrated no urine leakage with Valsalva manoeuvre nor genital prolapse.

UPP pre-operatively was done in 12 pts: maximum urethral closure pressure was an average of 78 cmH₂O (min=50 cmH₂O; max=113 cmH₂O), functional urethral lenght was 2,9 cm at mean (min=2,5 cm; max=3,5 cm).

13 pts were examined after surgery (1 pt died and 1 pt was lost at follow-up), all through an interview and 8 with a videourodynamic test (2 pts refused the test, 3 pts was doing chemotherapy for metastatic disease).

Results

After surgery urodynamic test or interview documented: 7/13 pts were completely dry (without using any pad), 3 pts needed no more than 1 pad/day.

3 pts needed more than 3 pads/day (min=3, max=5), 2 of these had the worst histological report and were doing chemotherapy at the time of interview, the other one was became blind cause of sepsis by Candida.

11/13 were able to empty their pouches by straining, while 2 (15%)requires intermittent self catheterization.

Videourodynamic evaluation (8 pts) revealed a low reservoir pressure in all pts, with a mean pressure of 10 cm H₂O at maximum filling (from 8 to 17 cmH₂O) and a mean capacity of 375 cc (from 250 cc to 450 cc). All pts examined with vudeourodynamic test, had a mean peak urethral closing pressure value of 50 cm H₂O,not significantly different from pre-operatively date (min=40 cmH₂O; max=72 cmH₂O). 5 pts demonstrated no leakage strining or coughing, indicating preservation of the intrinsic sphincter mechanism. The other 3 pts showed a minimum leakage, at maximum filling with strining (VLPP min= 61 cmH₂; VLPP max:112 cmH₂O). These last 3 pts used 1 pad/day (we can't quantify how was the leakage/day).

A reduction of functional urethral lenght was documented in all pts with a mean value of 2,1 cm (min=1,5 cm; max=3 cm).

Conclusions

Sparing the somatic branches to the intrinsic sphincter mechanism together with construction of a low pressure reservoir provides good continence and makes orthotopic bladder replacement an attractive option to women after radical pelvic surgery.

An attentive clinical and videourodynamic evaluation is essential to select female pts who underwent to cistectomy and a creation of an orthotopic reservoir, to minimize the risk of incontinence after surgery. These pts must be evaluated not only in their oncological follow-up, but in their "functional" follow-up too.