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LOWER URINARY TRACT DYSFUNCTION AFTER RADICAL HYSTERECTOMY

Hypothesis / aims of study

Lower urinary tract dysfunction (LUTD) is a common long-term complication following radical hysterectomy that greatly reduces quality of life. The aim of this study was to evaluate the characteristics of LUTD following radical hysterectomy and the effect of early therapeutic intervention on the LUTD.

Study design, materials and methods

We retrospectively reviewed the medical records of patients who were managed with clean intermittent catheterization (CIC) after radical hysterectomy and who underwent video-urodynamic studies (V-UDSs) less than 1 year after operation. Indications for CIC were urinary retention, large amount of residual urine, and/or voiding with severe straining. CIC was deemed unnecessary when the patient was able to void spontaneously without severe straining.

Results

Forty four patients with an average age of 50 (30-71) years old were evaluated in this study. The median follow-up period was 42 (3-126) months. The initial V-UDS in each patient was performed at 0-11 (mean 3.9) months after radical hysterectomy, depending on adjuvant therapy and complications. During the filling phase, absent and reduced bladder sensation were observed in 10 (23%) and 11 (25%) patients, respectively, and low compliant bladder (<20ml/cmH_2O) in 16 (36%). Four (9%) patients showed detrusor overactivity (DO) and 9 (20%) patients showed incompetent urethral closure mechanism. During the voiding phase, 40 (91%) patients showed acontractile detrusor, with 5 of them showing partial urethral relaxation. The remaining 4 patients showed detrusor underactivity, and all of them had partial urethral relaxation.

None of the initial V-UDSs done at 6-12 months after operation showed low compliant bladder. The low compliant bladder was more frequently observed in V-UDSs performed less than 3 months after operation when compared with V-UDSs performed between 3 to 6 months after operation; bladder compliance was less than 10 ml/cmH_2O in 62.5 % (10/16) and less than 20 ml/cmH_2O in 75 % (12/16) of V-UDSs performed less than 3 months after operation, and less than 10 ml/cmH_2O in 6 % (1/17) and less than 20 ml/cmH_2O in 23 %(4/17) of those done between 3 and 6 months after operation. Anticholinergic agents were administered to 13 patients who showed low compliant bladder.

V-UDSs were repeated in 19 patients at an average of 22.1 (6-44) months after operation. Fig 1 shows the changes in the bladder compliance in 11 patients who showed low compliant bladder in their initial V-UDSs. All but two patients who stopped CIC arbitrarily (dotted lines) showed improvement of their bladder compliance. The 8 patients who had normal compliant bladder in the initial V-UDS remained to do so. DO was observed in 5 patients in the repeated V-UDSs performed at 6-26 months after operation. Two patients showed improvement of detrusor function during voiding in the repeated V-UDSs performed at 21 and 26 months after operations. Five patients showed improvement of urethral relaxation at 22.2 (9-44) months after operation.

Anticholinergic agents were stopped in 5 patients at 26.8 (12-43) months after operation,

Ultimately 19 patients (43%) stopped CIC at 13 (0-44) months after operation. Table 1 shows the initial V-UDS data of the patients who discontinued CIC and those who continued CIC. The bladder compliance was significantly (p=0.03) higher in the former group. The proportion of acontractile detrusor and non-relaxing urethral sphincter obstruction was significantly (p=0.03 and 0.003, respectively) higher in the patients who continued CIC.

Table 1

	Discontinued CIC	Continued CIC
No.	19	25
Age (years)	47.8±10.2	53.0±9.9
Follow-up period (months)	51.9±26.5	33.8±32.5
Compliance (ml/cmH_2O)	118.1±129.9	48.2±63.1*
DO (no)	2 (10%)	2 (8%)
Acontractile detrusor (no)	15 (79%)	25 (100%)*
Non-relaxing urethral sphincter obstruction (no)	11 (58%)	24 (96%)**

*; p<0.05, **; p<0.01 significantly different between the two groups

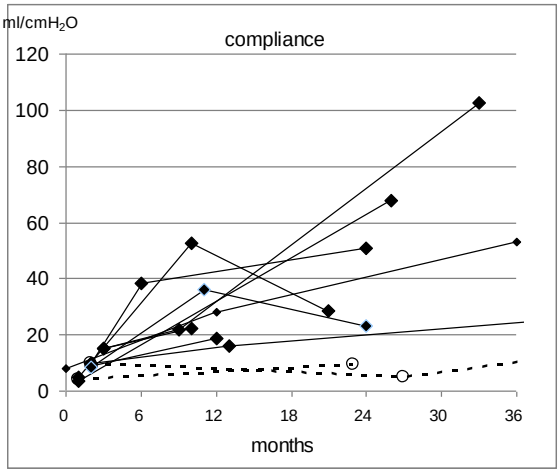
Table 2 shows the data of 16 patients who underwent V-UDS when they aimed at discontinuing CIC. All patients showed normal compliance and 6 patients showed detrusor contraction during voiding. Ten patients showed acontractile detrusor but sufficient urethral relaxation.

Table 2

	V-UDS at aiming CIC discontinuation
Age (years)	48.5±8.4
Months after operation (months)	12.8±12.2
Compliance (ml/cmH_2O)	129.2±110.8
DO (no)	2/16 (13%)
Detrusor contraction (no)	6/16 (38%)

There were two patients who stopped CIC arbitrarily. They had low compliant bladder, incompetent uretheral function, and acontractile detrusor in their initinal V-UDSs. They returned to our hospital 2 years later. One had severe incontinence and showed deterioration of bladder compliance, and the other, who had developed urosepsis, showed detrusor overactivity incontinence and VUR.

Fig 1



Interpretation of results

About half of our patients could discontinue CIC as they had recovered voluntary control of micturition. In most of those patients, the urethra became to open enough to allow the bladder to be emptied with only slight straining, but more than half of them still showed acontractile detrusor and detrusor function during voiding returned to an acceptable level in only 2 cases. Bladder compliance was low in about one third of patients, especially when evaluated at less than 6 months after operation, although it improved over time in most of these patients. The clinical course of patients who interrupted CIC arbitrarily suggests that appropriate and continuous intervention is necessary to manage the LUTD.

Concluding message

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**this is a part of our routine clinical practice.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**