

LONG TERM URODYNAMICS RESULTS IN SIGMOID ORTHOTOPIC NEOBLADDERHypothesis / aims of study

To evaluate long-term urodynamic results using a 20-25 cm, completely detubularized sigmoid colon segment, remodelled in spherical shape, as an orthotopic continent reservoir over a 13-year period.

Study design, materials and methods

Between 1993 and 2006 bladder replacement with a sigmoid colonic segment was performed on 122 patients, 106 men (86.9%) and 16 (13.1%) women, mean age 63.2 (range 42-77 median 64.12 \pm 7.65). Mean follow up was 48.2 months (range 4-158, median 38.4 \pm 58.3). 96 patients (86 M, 10 F) underwent urodynamic evaluation. Functional data were stratified into four groups (A,B,C,D) based on follow up. 6 months (96 pts–group A), 2 years (52 pts–group B), 5 years (44 pts - group C) and 10 years (11 pts–group D) after surgery evaluations were performed by means of: 3 day detailed micturition time chart, uroflowmetry, pressure-flow study and urethral pressure profile. We have considered continent day-time and night-time all patients who didn't use pads and referred themselves as completely dry.

Results

Cancer specific survival was 66.0 % at 5 and 10 yrs. Daytime continence rate was: A 65 (67,7%) B 39 (75%) C 36 (81,8%) D 8 (72,7%). Nighttime continence rate was A 44 (45,8%) B 26 (50%) C 20 (45,4%) D 6 (54,5%). Data from micturition time chart at 6 months, 2, 5 and 10 years of follow up showed a mean daytime frequency of 8.4, 6.25, 5.2, 5.8 respectively.

	Group A (pts 96)	Group B (pts 52)	Group C (pts 44)	Group D (pts 11)
Q Max (ml/sec)	11.32 (6-37)	12.62 (6-30)	12.60 (7-21)	10.78 (8.2-14.6)
Mean Voided volume (ml)	237.56 (10-538)	320.83 (175-600)	381.78 (180-660)	380.36 (305-440)
Residual urine volume (ml)	78.15 (0-450)	49.17 (0-150)	61.11 (0-100)	56.36 (30-80)
Max neobladder capacity (ml)	316.33 (180-540)	365.83 (130-600)	440.67 (200-680)	423.63 (320-490)
Pressure neobladder at Max capacity (cm/H ₂ O)	49.93 (16-140)	42.75 (15-70)	29.78 (12-70)	26.00 (19-38)
Max P at peristaltic contraction (cm/H ₂ O)	54.52 (15-140)	46.08 (15-80)	28.89 (15-55)	26.72 (18-45)
Max P neobladder at Q max (cm/H ₂ O)	95.38 (30-200)	79.3 (50-115)	71.67 (20-110)	57.63 (35-79)

Interpretation of results

Voided volume, Max P at peristaltic contraction, Max neobladder capacity and Max P neobladder at Max Capacity improve over the years and a statistically difference exists between group A and C ($p=0.0001$). Q max and Residual urine volume are constant during the follow up ($p=0.328$, $p=0.315$). Group D doesn't evidence substantial difference with group C.

Concluding message

Health-related quality of life after surgery remain an important issue to consider in the choice of urinary diversion following radical cystectomy. In our experience sigmoid neobladder allows even in the long as in the brief period of follow-up a good compliance with complete voiding and without severe reservoir dilatation.

Specify source of funding or grant	No source of Funding or grant
Is this a clinical trial?	Yes
Is this study registered in a public clinical trials registry?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	Ethics Committee A.O.U. Careggi Florence
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes