

DETRUSOR UNDERACTIVITY AND ITS ROLE IN RECOVERY VOIDING EFFICIENCY AFTER TURP, AN URODYNAMIC STUDY.

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Materials and Methods:

This is an observational, prospective, non-randomized study that started in January 2017 and completed in January 2025.

Pts with IC or in CIC for PVR>300 ml and BVE ≤ 50%, eligible to TURP, were recruited in the study. All pts underwent urodynamic (UD) evaluation, IPSS and BII as work out prior to surgery.

Exclusion criteria was: neurological diseases, previous TURP and/or pelvic irradiation.

Q-Max, BVE, Bladder Contractility Index (BCI) and Bladder Outlet Obstruction Index (BOOI) were determined, allowing to categorize pts in 3 groups:

Group A: pts with DU and BOO (BCI< 100 and BOOI > 40).

Group B: pts with DU (BCI < 100 and BOOI < 40)

Group C: pts with Contractile Underactive Bladder (CUB), with a detrusor contraction < 40 cmH2O, but no flow detected (no BCI and no BOOI determined because of absence of flow)

Group D: pts with Acontractile Bladder (AB) (no detrusor contraction nor flow detected during UD).

We followed operated pts after TURP verifying recovery of voiding efficiency (primary endpoint), Q-Max and PVR, IPSS and BII variation (secondary endpoint) 1-6 and one year after surgery.

		GROUP A	GROUP B	Group C	Group D
IPSS	PRE-TURP	20 ± 2,5	29 ± 3	Nd	nd
	POST-TURP	4 ± 2,5	14 ± 2	13 ± 3	20 ± 2
	p	p < 0,001	p = 0,002	nd	nd
Q-MAX	PRE-TURP	4 ml/sec ± 4,4	4,7 ml/sec ± 4	Nd	nd
	POST-TURP	13 ml/sec ± 3,2	12,5 ml/sec ± 2	11,9 ml/sec ± 3	8 ml/sec ± 3
	p	p < 0,001	p < 0,001	nd	nd
PVR	PRE-TURP	354 ml ± 102	365 ml ± 150	430 ml ± 106	450 ml ± 98
	POST-TURP	98 ml ± 87	100 ml ± 123	99 ml ml ± 108	300 ml ± 90
	p	p < 0,001	p < 0,001	P < 0,001	nd
BII	PRE-TURP	11 ± 1	13 ± 1	12 ± 1	13 ± 2
	POST-TURP	4 ± 2	5 ± 2	5 ± 1	8 ± 3
	p	p < 0,0001	p < 0,0001	p < 0,001	nd

Results:

We included in the study 186 pts (62 with IC and 124 in CIC), 72 pts for group A (BCI 79 +/- 11 and BOOI 54 +/- 9), 56 pts for group B (BCI 59 +/- 15 BOOI 22 +/- 12), 30 pts in group C and 28 pts in group D (BCI and BOOI not determined because no flow detected).

We excluded from the study 45 pts with a normal detrusor contraction (> 40 cmH2O) but no flow detected at urodynamic because a severe BOO.

All pts in group A- B and C underwent TURP, all pts but 8 of group D remained in CIC or IC, 8 highly motivated pts of group D underwent surgery after given very well informed consent.

After surgery 70 pts of group A (97%) regained micturition without necessity of CIC, 2 (3%) pts restored micturition but continued with one daily CIC for complete bladder emptying.

In group B 44 pts (80%) restored micturition after surgery without necessity of CIC, 9 (15%) regained spontaneous void but continued with 1-2 daily CIC for complete emptying, 3 pts (5%) did not restore spontaneous void so remained in CIC or IC.

Pts in group B who did not regain satisfying bladder emptying with BVE ≤ 50% presented preoperatively a severe DU with BCI < 40 (in Schafer Nomogram very weak detrusor contractility and 0-I grade of obstruction)

In group C 21 pts (70%) restored micturition without necessity of CIC, 4 pts (14%) needed 1 daily CIC for complete voiding and 5 pts (16%) did not restore micturition and remained in CIC or IC.

Pts in group C who did not restore micturition presented severe DU with detrusor contraction < 20 cmH2O

Among 8 out of 28 pts of group C who underwent surgery although acontractility diagnosis only 3 pts restored micturition but needed to continue 2 daily CIC to complete bladder emptying.

After surgery patients in the three groups (A, B and C) showed a statistical significant improvement in IPSS score, BII score, Q-max and PVR (see Table 1).

No statistical analysis was conducted for patients in group D

Conclusions:

Our study demonstrated that DU should not be a contraindication to TURP in men with IC or in CIC allowing in most cases to restore spontaneously voiding and satisfying bladder emptying.

Very well informed consent should be obtained prior surgery in case of acontractility or severe underactivity in urodynamic diagnosis