

DETRUSOR OVERACTIVITY AND UROGENITAL PROLAPSE

Hypothesis / aims of study

To assess resolution of detrusor overactivity in women who underwent surgery for urogenital prolapse.

Study design, materials and methods

74 women with urogenital prolapse were recruited to the study. All patients underwent a standard uro-gynaecological diagnostic work-up before surgery: detailed case history, questionnaire on symptoms, uro-gynaecological clinical examination with the descensus graded according to the Halfway System classification, pelvic ultrasound scan and urodynamic tests according to ICS guidelines. Prolapse was corrected by the vaginal approach in 29 patients and by the abdominal approach in 44. Post-operative check-ups at 3, 6, 9 and 12 months included case history, symptom assessment and clinical examination. Urodynamic tests were repeated 12 months after surgery. Detrusor overactivity (DO) was evaluated on the basis of threshold volume, the amplitude and duration of uninhibited detrusor contractions (UDC). Obstruction was defined according to Chassagne criteria: pdet Qmax ≥ 20 cmH₂O and Q max ≤ 15 ml/sec. Detailed analysis was performed in 26 patients with preoperative DO and in 7 with post-operative DO.

Results

At the pre-operative urodynamic tests 26/74 women (34%) presented with detrusor overactivity which was associated with obstruction in 18 (69.2%). 17/26 (65%) patients presented with obstructive symptoms, 23/26 (88%) with irritative symptoms and 14 patients with both. 15/26 patients (57%) presented with urge incontinence (in 8 associated with stress incontinence). After surgery DO disappeared in 16 patients (62%). 8/10 patients with persistent DO showed obstruction as in preoperative urodynamic evaluation. Post-operative obstruction was observed in 3/16 (1 de novo, 2 persistent) patients who resolved DO. Patients who did not resolve DO showed preoperatively a lower UDC threshold; most of them underwent vaginal surgery (Table 1). In the 16 patients who resolved DO, urodynamic parameters pdetQmax and Q max improved significantly: (p=0.008 and p=0.05 respectively) (Tab. II). There was a significant difference in pdetQ max (p=0.0003) between patients with persistent DO and those with resolution of the dysfunction; it was not the case for Qmax (p=0.1). *Surgical details* in 16 patients who resolved DO are presented: 11 underwent an open surgery (sacropexy with colposuspension) and 5 a vaginal surgery (four-corner or colpohysterectomy with Mc Call technique). Of the 10 patients with persistent DO, 8 underwent vaginal surgery (5 four corner, 2 rectocele repair, 1 vaginal colposuspension associated with posterior colposuspension) and 2 underwent open surgery (1 hysterocolposacropexy and 1 colposacropexy). Seven (14%) of the 48 patients (66%), without pre-operative DO presented with post-operative hyperactive bladder. Maximum pressure of UDC was subliminal (<15 cm H₂O) in 5 and of 40 cm H₂O in the remaining 2 patients. All these 7 patients had undergone open surgery. Four cases had pre-operative obstruction in the urodynamic tests. Only 1 with grade II cystocele was obstructed post-operatively.

Interpretation of results

Urodynamic parameters pdetQmax and Q max improve significantly in the patients who resolved DO post-operatively. A significant difference emerged in the post-operative pdetQ max in patients with and without DO. We observed only 1 case out of the 7 (14%) with de novo detrusor overactivity that was not related to obstruction. These elements tend to identify the obstruction as an important parameter related to preoperative DO in patients with severe urogenital prolapse.

Concluding message

Surgery corrects DO due to utero-vaginal prolapse in 62% of patients with the success rate rising to 85 % with the abdominal approach. DO is closely linked to urogenital prolapse.

Tab 1 Clinical characteristics and preoperative urodynamic results in 26 patients with DO

	Persistent	Resolved	p
No. patients	10	16	
Age(years)	60.8±9.7	66.06±8	
UDC threshold (mean±SD) (ml)	99.6±45.81	131.81±48.06	0.051
Max UDC (mean±SD) cm H ₂ O	28.5±9.9	33.56±16	
UDC duration(mean±SD) sec	23.8±16	38.5±25.11	
Capacity(mean±SD) ml	350.7±133.38	317.9±79.9	
pdetQmax (mean±SD)cm H ₂ O	36±20	32,3±18	0.6
Qmax (P/F) (mean±SD) ml/sec	11.21±6.6	13.29±10.6	0.5
Surgical Approach	8 Vaginal * 2 abdominal **	5 Vaginal * 11 abdominal**	

Tab. 2 Pre- and post- operative urodynamic results in both groups

	Persistent DO (10 pts)			Resolved DO (16 pts)		
	Pre	Post	P	Pre	Post	P
pdetQmax (mean±SD) cm H ₂ O	36±20	40±13.6 ^	0.5	32.3±18	17.4±9.9 ^	0.008
Qmax(P/F) (mean±SD) ml/sec	11.21±6.6	12.41±9.2 ^^	0.6	13.29±10.6	18.26±7.2^^	0.05