

IS THERE A ROLE FOR SURGICAL TREATMENT IN PATIENTS WITH PARKINSON'S DISEASE AND BENIGN PROSTATIC OBSTRUCTION?

PEYRONNET B, VURTURE G, VANALDERWERELT V, TARIEL F, HUET R, PRADERE B, VINCEDEAU S, BRUYERE F, MATHIEU R, NITTI V, BRUCKER B M

OBJECTIVE

To assess the outcomes of BPO surgical treatment in PD patients.

METHODS

- All male patients with a reliable diagnosis of PD who underwent transurethral resection of the prostate (TURP) or photoselective vaporization of the prostate (PVP) for bothersome lower urinary tract symptoms (LUTS) due to BPO between 2010 and 2017 at 3 academic institutions (2 French and 1 US) were included in a retrospective study.
- Patients with doubtful neurological diagnosis (i.e. parkinsonism not formally diagnosed as PD) were excluded.
- The primary endpoint was clinical success defined as any subjective improvement in LUTS self-assessed by the patients 3 months after TURP or PVP or recovery of spontaneous voiding in patients with refractory urinary retention and indwelling urethral catheter preoperatively.
- Preoperative urodynamic were not done systematically and were performed at surgeons' discretion
- Levodopa equivalent daily dose was calculated for each patient.
- Univariate logistic regression model was used to seek for predictive factors of success.

RESULTS

- After exclusion of seven patients with Parkinsonism not formally diagnosed as PD, 42 PD patients were included: 31 and 11 treated with PVP and TURP respectively. The mean follow-up was 22.4 months
- At 3 months, 29 patients reported their LUTS had improved (69%), four that they were unchanged (9.5%) and nine that they were worsened (21.5%).
- The median length of hospital stay was 1 day. Ten patients experienced postoperative complications (23.8%) but with only one (2.4%) major complication (Clavien grade ≥ 3). Ten of the 14 patients with an indwelling catheter preoperatively recovered spontaneous voiding (71.4%).
- In patients voiding spontaneously preoperatively, the mean number of nocturia episodes significantly decreased at 3 months (from 3.7 to 2.1 per night; $p=0.04$) and so did the post-void residual volume (from 138 to 63.9 ml; $p=0.008$).
- Fourteen patients (33.3%) required overactive bladder treatments (i.e. anticholinergics, mirabegron, botulinum toxin or sacral neuromodulation) for persistent/de novo storage LUTS postoperatively.
- Out of 16 patients with preoperative incontinence, seven experienced a complete resolution of their incontinence postoperatively (43.8%).
- Conversely, out of 26 patients with no incontinence preoperatively, three patients reported de novo urinary incontinence lasting over 6 months postoperatively (11.5%).
- No predictive factors of success were found. Preoperative urodynamics was not predictive of treatment success

	N=42
Mean age (years)	74.4 (± 9.4)
Body Mass Index (kg/m ²)	25.9 (± 4.2)
Mean duration from Parkinson's disease onset (months)	73.5 (± 73.2)
Levodopa Equivalent Daily Dose (mg)	391.8 (± 339.8)
Voiding mechanism preoperatively	
Spontaneous voiding	28 (66.7%)
Indwelling catheter	14 (33.3%)
Ultrasound prostate volume (mL)	66.5 (± 37.5)
Prostate Specific Antigen (ng/mL)	4.5 (± 4.6)
Preoperative urodynamic	17 (40.5%)

	Before BPO surgery	4-6 weeks after BPO surgery	p-value
Mean Qmax (ml/s)*	11.7 (± 7.4)	10.6 (± 5.5)	0.76
Mean PVR(ml)*	138 (± 177.4)	63.9 (± 145.9)	0.008
Urinary Incontinence			
Yes	16 (38.1%)	10 (27.3%)	0.01
No	26 (69.1%)	26 (72.2%)	
Indwelling catheter			
Yes	14 (33.3%)	6 (14.3%)	0.0003
No	28 (66.7%)	36 (85.7%)	
OAB medications intake			
Yes	16 (38.1%)	13 (30.9%)	0.05
No	26 (61.9%)	29 (69.1%)	
3rd OAB therapies			
Yes	0 (0%)	4 (9.5%)	0.12
No	42 (100%)	38 (90.5%)	
Mean number of nocturia episodes/24h*	3.7 (± 4.6)	2.1 (± 1.6)	0.04

CONCLUSIONS

TURP/PVP provide satisfactory outcomes in PD patients with BPO overall. However the relatively high rates of patients with worsened symptoms (21.5%) and de novo incontinence (11.5%) postoperatively stress the need for careful patients' selection and appropriate counseling in this population.