

NO IMPROVEMENT IN HOME FLOW RATES IN A QUARTER OF MEN UNDERGOING TRANSURETHRAL RESECTION OF THE PROSTATE (TURP).

Hypothesis / aims of study

Men who undergo TURP are expected to experience improvement in flow rate as a result of the reduction in outlet resistance. Due to intrasubject variability in maximum flow rate (Q_{max}), this may not be apparent on conventional uroflowmetry (one flow measurement per subject before and after surgery). It should, however, be clearly demonstrable from home uroflowmetry, given that multiple measurements allow precise calculation of an average Q_{max} . Therefore, our aim was to demonstrate the effect of TURP on flow rate and voided volume (V_{void}) using home uroflowmetry.

Study design, materials and methods

17 men selected for TURP according standard institutional criteria were recruited into the study. Each used a portable home flowmeter for one week prior to surgery, and again at least four months following surgery. An IPSS questionnaire was also completed pre, and at least four months post, procedure.

Results

Median patient age at recruitment was 72 years and median time between surgery and follow-up was 5.3 months.

4 men did not experience a significant increase in median Q_{max} (Figure 1) and 9 men did not experience a significant increase in median V_{void} (Mann-Whitney U test). Overall, there was a net increase in median Q_{max} of $5 \text{ ml}\cdot\text{s}^{-1}$ and in median V_{void} of 37 ml.

Across all 17 men, total IPSS score decreased significantly following surgery from 21 to 8. Voiding score (IPSS Q3, 5 and 6) decreased from 8 to 1 and storage score (IPSS Q2, 4 and 7) was less improved, decreasing from 10 to 6.

Results for all 17 men are summarised in Table I.

	Pre TURP median	Post TURP median	p (Wilcoxon signed rank test)
Median Q_{max}	$9.6 \text{ ml}\cdot\text{s}^{-1}$	$14.7 \text{ ml}\cdot\text{s}^{-1}$	0.001
Median V_{void}	142 ml	179 ml	0.014
Total IPSS score	21	8	<0.001
Voiding score	8	1	<0.001
Storage score	10	6	0.001
IPSS QOL	5	2	<0.001

Table I. Pre and post surgery Q_{max} , V_{void} and IPSS values for all 17 men.

Interpretation of results

24 % of subjects did not experience an improvement in flow rate following TURP. The possible reasons are as follows:

Absence of prostatic obstruction

Subjects B and C were deemed to be obstructed on urodynamics prior to surgery, but no record of urodynamics having been performed on subjects A and D was found. In those men found to be obstructed on urodynamics, it is possible that the prostatic region was not in fact the flow-controlling zone.

Reappearance of obstruction

It is unlikely that prostatic obstruction returned within the study timeframe, given that regrowth is to the order of 1 g per year [1]. Formation of scar tissue following surgery resulting in constrictive obstruction may result in an unimproved flow rate. This ought to be indicated by less variation in flow rate with voided volume, possibly observed in subject B (Figure 1).

Decrease in bladder contractility

Bladder contractility decreases following TURP [2]. It is possible that the decrease in outlet resistance was offset by a decrease in bladder contractility in the months following surgery, resulting in an unimproved flow rate.

Concluding message

A quarter of our patients did not experience improvement in flow rate following TURP. Home uroflowmetry is a sensitive tool for demonstrating treatment-induced changes in Q_{max} and V_{void} .

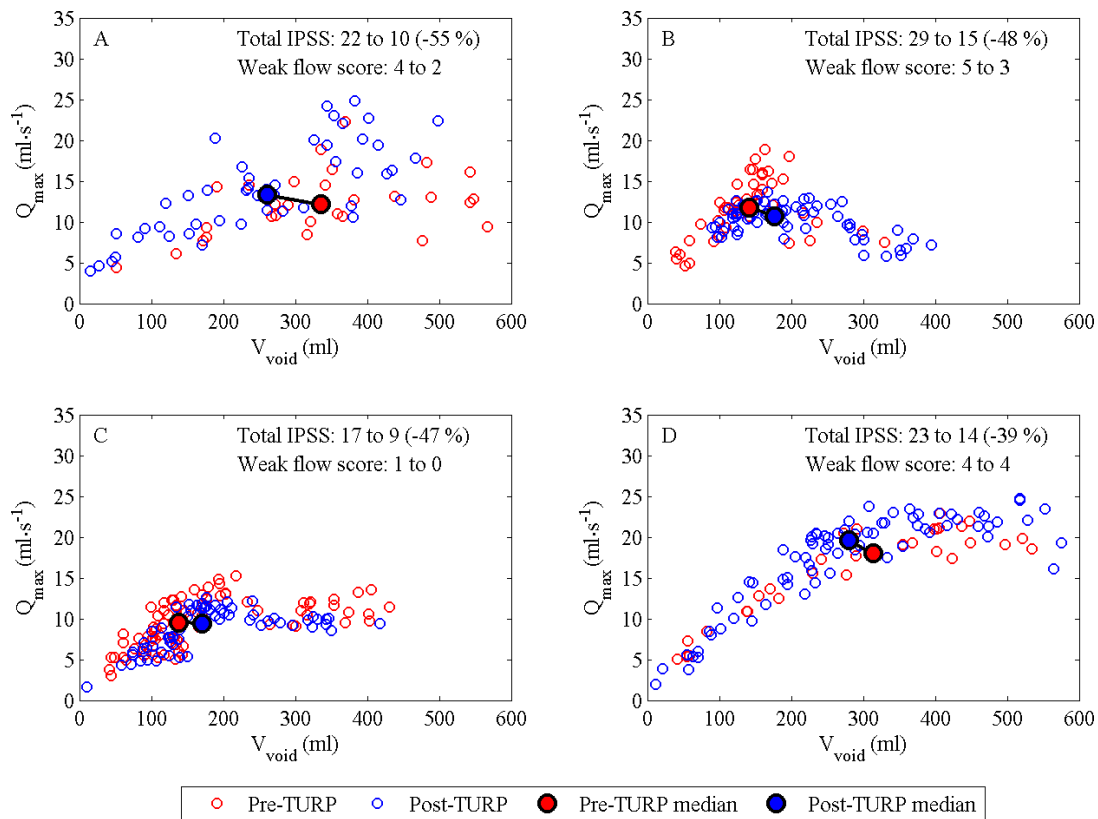


Figure 1. V_{void} versus Q_{max} plots, pre and post surgery, for 4 men who did not experience improvement in Q_{max} following TURP. Change in IPSS total and weak flow score also shown.

References

1. Eur Urol (2011); 60:734-739.
2. Neurorol Urodyn (2005); 24: 529-531.

Disclosures

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