

Do high residual volumes predict successful outcomes after Transurethral Resection of Prostate for Chronic Urinary Retention?

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BACKGROUND

- ICS defines Chronic Urinary Retention (CUR) as a non-painful bladder with a chronically high Post-Void Residual (PVR).
- High PVR may be considered >300-400mls.
- High residual volumes with weak detrusor function may result in poor surgical outcomes.
- Pre-operative utilisation of urodynamic studies (UDS) is variable.
- Aim: To evaluate a correlation between high PVR and successful voiding after Transurethral resection of prostate (TURP) in patients with CUR.

METHODS

- Retrospective electronic patient record (EPR) based study over 6 years (March 2012 and December 2018)
- A histopathological database of all TURP patients was obtained.
- Identified patients with CUR, defined as any combination of lack of pain, large residual volume on initial catheterisation, impaired renal function and upper tract dilatation.
- Data collected for demographics, co-morbidities, residual volumes, pre-operative UDS and surgical outcomes
- A successful outcome was defined as complete freedom from catheter.

Category	Total (685 patients)	Result of TURP		p-value
		Successful	Unsuccessful	
CUR diagnosis	93	49 (52.6%)	44 (47.4%)	
Mean Age	73 (51 – 95)	70	75	p-value < 0.05
Mean Residual Volume		1.4L (0.6L – 4L)	1.2L (0.4L – 3L)	p-value > 0.05

RESULTS

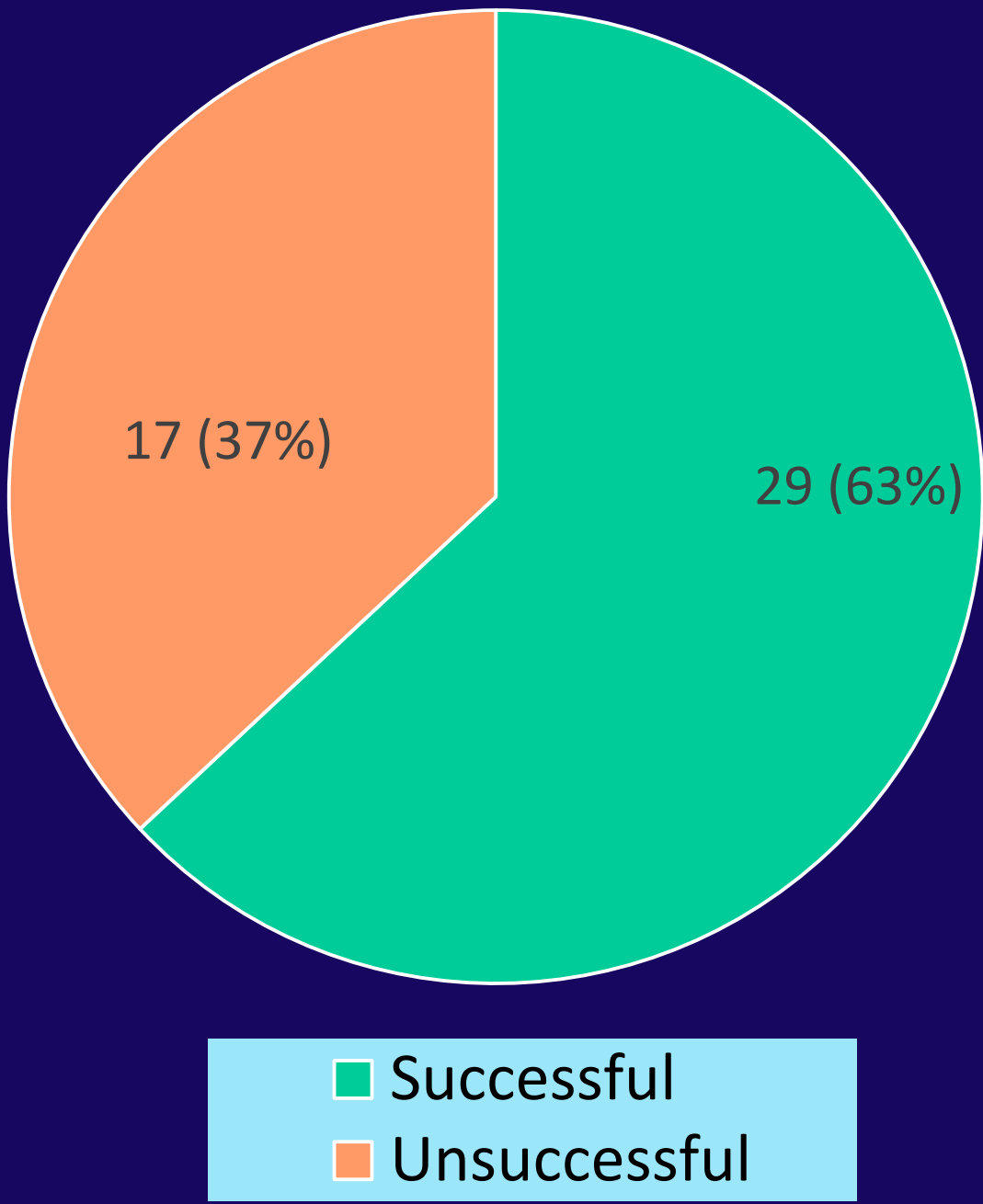
- Total TURP patients:** 685. **CUR patients:** 93
- Mean age:** 73 years (51 - 95 years)
- Successful:** 49 (52.6%) of these got rid of their catheters. **Mean age:** 70 **Mean residual volume:** 1.4 L (range = 0.6 L– 4 L)
- Unsuccessful:** 44 (47.4%) continued to use it post-operatively. **Mean age:** 75 **Mean residual volume:** 1.2 L (range = 0.4 L – 3 L)
- Difference of mean age was statistically significant (p-value < 0.05).
- Difference of residual volume was not statistically significant.
- Outcomes of patients with PVR ≥1.5L were no different from patients with PVR <1.5L.

- No Pre-operative UDS:** 47 of 93 CUR patients.
- Successful:** 15 (32%)
- Unsuccessful:** 32 (68%)
- Pre-operative UDS:** 46 of 93 CUR patients.
- Bladder outflow obstruction (BOO):** 40 (87%)
- Detrusor hypocontractility:** 6 (13%)
- Successful post UDS:** 29 of 46 patients (63%).
- Unsuccessful post UDS:** 17 of 46 (37%) (including 14 with BOO).

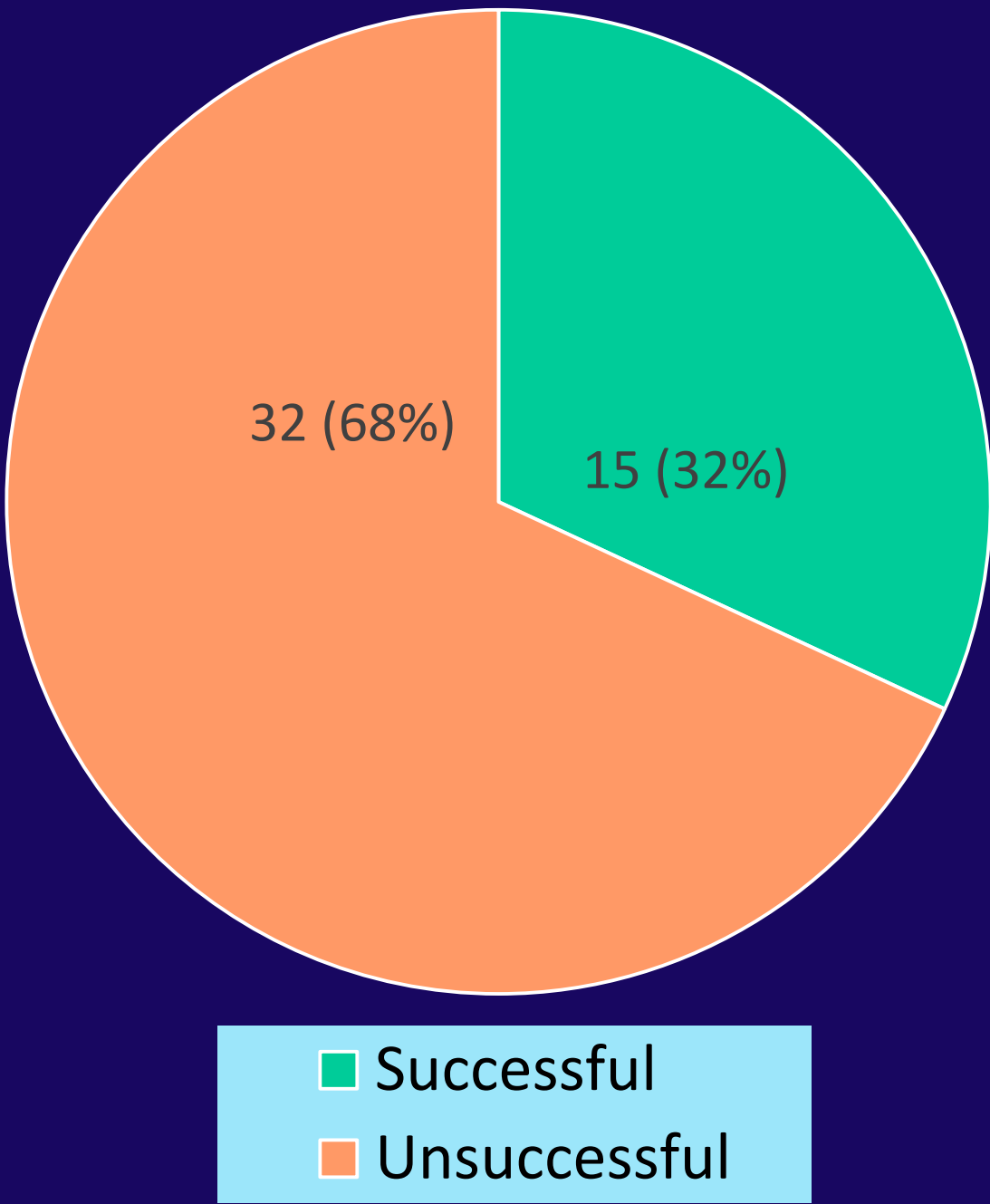
- Post-operative UDS was not carried out in this group to rule out persistent BOO. Initial failure of outflow surgery could be due to incomplete relief of obstruction.
- Routine use of pre-operative UDS could have resulted in avoidance of TURP.
- Co-morbidities contributing to poor outcomes in the ‘success’ and ‘failure’ groups were not statistically different (Chi-square test; p-value > 0.05).

Total CUR Patients	93		
Pre-operative UDS	46	Bladder Outflow Obstruction	40 (87%)
		Detrusor Hypocontractility	6 (13%)

Pre-operative Urodynamics Patients



Non-Urodynamics Patients



CONCLUSIONS

- Age is predictive for outcomes of TURP for CUR
- The outcomes of TURP in patients with CUR are not dependent on residual volume and co-morbidities.
- Pre-operative UDS should be used routinely to select patients for surgery.
- Among those who did not have pre-operative urodynamics, only 1/3 of patients had a successful outcome.
- For patients with unsuccessful outcomes from surgery, post-operative UDS should be carried out to exclude persistent obstruction.