

EJACULATION PRESERVING TRANS URETHRAL RESECTION OF PROSTATE (epTURP): AN INITIAL STUDY

Original article Surgery

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Abstract:

A short term prospective study was conducted on 10 patients (age range 55-65 years and sexually active) undergoing the ejaculation preserving Trans Urethral Resection of Prostate (epTURP). They were evaluated for preservation of antegrade ejaculation along with the functional outcome of this technique after 3 months. In this study, 7/10 (70%) patients reported preservation of ejaculation at 3 months, although their score (Question no 9 of the International Index of Erectile Function) was slightly low as compared to preoperative status. There were significant improvements observed in LUTS i.e. Uroflowmetry parameters at 3 months. Voiding symptoms (IPSS and Life Quality Index) were also significantly reduced (mean difference of 13.5 and 2.3, respectively). No serious adverse events were reported. Therefore, in this short term study, it appears that epTURP preserves antegrade ejaculation whilst other symptomatic and functional outcomes remain similar. Indwelling catheter in the preoperative course adversely affects ejaculatory function. However the main limitations of this study is that it has a small number and also has a short follow up of only 3 months where the patient has still not resumed his sexual activity in "full swing" not only in terms of number of sexual encounters but also psychologically. Presumably many of these patients would improve over a period of time and the results would be then comparable to the other published series.

Keywords: Ejaculation, Trans Urethral Resection, Prostate

Introduction

Open surgery for prostate is almost extinct in today's time and currently Trans Urethral Resection of Prostate (TURP) remains the gold standard procedure. Conventionally TURP is done using Monopolar Electrosurgical cautery. Although the use of Bipolar cautery and Lasers is gradually becoming popular, the Monopolar cautery has stood the test of time and is still the commonest energy source for prostatic surgery all over the world. In all these procedures the entire occlusive prostatic lobes proximal to, and by the side of the verumontanum (apical tissue) are removed, giving place to an empty 'cavity' that enables free flow of urine through the urethra. Although relieved of urinary symptoms, high rates of loss of ejaculation (Dry Orgasm) (65- 85 %) ^{1,2} are reported after standard traditional cavitating BPH surgeries like TURP. This represents one of the important reasons for avoidance of surgical treatment. This is a particular issue among younger patients who hesitate to agree to TURP due to fear of loss of ejaculation¹ and subsequent psycho sexual consequences. Thus given an option, most sexually active men undergoing TURP are likely to prefer to have their ejaculation preserved.

Analysis of recorded ultrasound video footage during ejaculation³⁻⁵ have shown that semen emitted from the ejaculatory ducts is directed distally by a coordinated contraction of the external sphincter and bulbar urethra. This demonstrates the importance of the muscular tissue proximal to and around the verumontanum (what might be called 'the high pressure ejaculatory zone') for outward ejaculation, rather than closure of the bladder neck. One might infer that, as long as this tissue is not disrupted, ejaculation should

still occur even with an open bladder neck. The concept is rather new with few published series showing a very low outcome of Anejaculation (9.2 %).¹ Likewise Antegrade ejaculation was reported to be preserved in 90.8% patients.⁵

In this technique of epTURP, the paracollicular and tissue 1 cm proximal to verumontanum^{1-3,5,6} was preserved while rest of the prostate was resected as in standard TURP. The Ejaculatory outcome of modified TURP (epTURP) technique was then evaluated after three months. It was ensured that the urinary functional outcomes and complications were not adverse as compared to the standard TURP.

Patients and method

The study was conducted at the Chirayu Medical College and Hospital, Bhopal (India) between October 2016 and September 2017. Clearance from the local hospital ethical committee was obtained to undertake this study. In this study, 10 patients between 55 -65 years with LUTS due to BPH and who needed surgery were taken up. All had a healthy and active sexual life and expressed desire to preserve their ejaculatory ability after surgery. Patients with existing ejaculatory disorders, coexisting malignancy or neurological disorders and those unfit for anesthesia were excluded. After due explanation and discussion with the patient regarding this technique of epTURP, a detailed written consent was obtained for operation by this method instead of regular TURP. All procedures were done using a standard Resectoscope (Richard Wolf) and a monopolar electrosurgical cautery. A preoperative evaluation of LUTS was based upon IPPS, LQI score, Uroflowmetry and PVR volumes.

The ejaculation status was evaluated based upon the question number 9 of the IIES. The follow up after 3 months consisted of similar questions and Uroflowmetry test.

Results

At the end of 3 months all patients showed improved voiding. The mean maximum flow rate improved from 6.65 ml/sec to 15.6 ml/sec and mean Post void residual volumes reduced from 183.75 to 51 ml in patients who were not catheterized preoperatively. All the ten patients (inclusive of those who were with indwelling catheters preoperatively) became normal voiders with an overall mean maximum flow rate of 12.73 ml/sec and mean PVR volume of 64ml. The IPSS improved from mean 22.5 to 9.0 and QOL due to LUTS score from mean 4.8 (i.e. mostly dissatisfied) to 2.3 (i.e. mostly satisfied) (Table 1). 7/10 patients had ejaculation preserved although their score (Question no. 9 of IIEF score) was slightly lower than their preoperative score. The 3 patients who did not have ejaculation had prolonged preoperative indwelling catheters inserted for AUR. 2 of these 3 also developed stricture urethra. No patient had any immediate postoperative complication worth mentioning.

Discussion

A patient receiving treatment of BPH gets relief to outflow obstruction but has a very high probability of having dry orgasm for the rest of his life. An almost inevitable adverse event of the conventional TURP is the loss of antegrade ejaculation, seen in 65%–80% of patients.⁵ The use of alpha receptor antagonists is also known to cause a loss in antegrade ejaculation.⁵ Thus given a choice every patient, of any age, would prefer

an ejaculation preserving treatment provided there is no additional risk and his LUTS are adequately cured. There have been encouraging results of epTURP regarding preservation of ejaculation,^{1,3-6} as compared to conventional TURP.

The 1994 BJUI paper, and subsequent excellent video, by Gil Vernet's group² clearly shows that bladder neck contraction is not necessary for antegrade ejaculation. Using live TRUS, the bladder neck and prostate as far as the bulbar urethra was visualized during masturbation in 30 men. The observations suggested that semen emitted from the ejaculatory ducts is directed distally by a coordinated contraction of the external sphincter and bulbar urethra. This demonstrates the importance of the muscular tissue proximal to and around the verumontanum (what might be called 'the high pressure ejaculatory zone') for outward ejaculation, rather than closure of the bladder neck. One might infer that, as long as this tissue is not disrupted, ejaculation should still occur even with an open bladder neck. The concept is rather new with few published series showing a very low outcome of An ejaculation (9.2 %).¹ Likewise Antegrade ejaculation was reported to be preserved in 90.8% patients.⁵

In this technique of epTURP we adopted the standard monopolar resection in which the Median lobe and bladder neck is resected in the same way as standard TURP techniques with the focus on preserving the verumontanum and surrounding tissue up to a mark 1cm proximal to the verumontanum. The lateral lobes are resected to the level of the verumontanum, but without cutting into paracollicular tissue. By preserving apical tissue using these

anatomical landmarks, more than 90% of men had preserved ejaculation with voiding outcomes and quality of life scores comparable to standard non-ejaculation preserving transurethral resection techniques.

The endpoints of our study were change in Objective assessment i.e. Uroflowmetry, postvoid residual (PVR) volumes, and Subjective

assessment i.e. International Prostate Symptoms Score (IPSS), Life Quality Index (LQI), and Question no. 9 of the International Index of Erectile Function (IIEF) measures of function. All patients received follow-up examinations at 3 months with same set of evaluation. The results were comparable with the published literature⁵ (Table 1).

Table – (1)

Characteristics	Series by Alloussi et all (2014)		Our series (2016-17)	
	Pre-operative	Post-operative	Pre-operative	Post-operative
Age (Years)	59.5		52.5	
IPSS	22.8	4.5	22.5	9.0
LQI	4.6	1.7	4.8	2.3
Qmax (ml/sec)	9.2	23.5	6.65	15.6
PVR (ml)	71.2	12.2	183.75	51

Our results are consistent with similar reports of ejaculation preservation after resection of the bladder neck.^{1,3-6} With preservation of 1cm proximal of the verumontanum, Alloussi et al observed 90.8%, Paul et al 90% and Ronzoni et al 80% patients had preservation of ejaculation. In our series we had 70% of the patients showed persistent antegrade ejaculation versus 20-35% after conventional TURP.⁵ An (7/10) observation that 3/10 patients with indwelling catheter for > 2 weeks preoperatively had anejaculation after epTURP in this series needs serious consideration. The patient number in this category is very small to draw statistically significant conclusions and opens avenues for further studies.

Conclusion

Ejaculation Preserving TURP appears to be a safe and feasible option

with promising initial results. Our success regards voiding parameters even in those with urinary retention implies the satisfactory degree of unblocking of the outflow with no added complications with this technique. While "Dry Orgasm" is known after standard TURP, this technique has certainly shown preserving antegrade ejaculation. The main limitations of this study are that it has a small number and also a short follow up of only 3 months where the patient has still not resumed his sexual activity in "full swing" not only in terms of number of sexual encounters but also psychologically. Presumably many of these patients would improve over a period of time and the results would be then comparable to the other published series.

References

1. Saladin Helmut Alloussi, MD,¹ Christoph Lang, MD,² Robert Eichel, MD,³ and Schahnaz-Aloussi, MD, “Ejaculation-Preserving Transurethral Resection of Prostate and Bladder Neck: Short- and Long-Term Results of a New Innovative Resection Technique”: *Journal of Endourology*, Volume 28, Number 1, January 2014.
2. JM Gil-Vernet Jr., R Alvarez-Vijande, A Gil-Vernet, et al. Ejaculation in men: A dynamic endorectalultrasonographical study. *Br J Urol* 1994;73:442–448.
3. Paul Sturch, Henry H.Woo, Tom McNicholas, Muir Gordon, “Ejaculatory Dysfunction After Treatment For Lower Urinary Tract Symptoms: Retrograde Ejaculation or Retrograde Thinking”, *BJU International* July-2014-0408.R2, 186-187.
4. Amang Chung, Henry H Woo. “Preservation of sexual function while relieving benign prostatic obstruction surgically: Can a trade-off be considered?”: *Current opinion in Urology*; Vol. 25, Nov 2015.
5. Alloussi SH1, Lang C, Eichel R, Alloussi S. “Ejaculation-preserving transurethral resection of prostate and bladder neck: short- and long-term results of a new innovative resection technique”: *J Endourol.* 2014 Jan;28(1):84-9. doi: 10.1089/end.2013.0093. Epub 2013 Oct 10.
6. Ronzoni G1, De Vecchis M. “Preservation of anterograde ejaculation after transurethral resection of both the prostate and bladder neck”: *Br J Urol.* 1998 Jun;81(6):830-3.