Thulium laser versus standard transurethral resection of the prostate: A randomized prospective trial

Deepak Dubey, K. Muruganandham
Department of Urology, SGPGI, Lucknow, India

SUMMARY

In this prospective trial the authors randomized 100 consecutive patients to receive either a TURP (n = 48) or Thulium Laser Prostatectomy (n = 52). All patients were preoperatively assessed with subjective symptoms score, International Index of Erectile Function questionnaire, and complete urodynamic evaluation. Preoperative and perioperative parameters at 1-, 6-, and 12-months follow-up were also evaluated. All complications were recorded. TmLRP-TT was significantly superior to TURP in terms of catheterization time (45.7 ± 25.8 h vs. 87.4 ± 33.8 h, P < 0.0001), hospital stay (115.1 ± 25.5 h vs. 161.1 ± 33.8 h, P < 0.0001), and drop in hemoglobin (0.92 ± 0.82 g/dl vs. 1.46 ± 0.65 g/dl, P < 0.001), whereas it required equivalent time to perform (46.3 ± 16.2 vs. 50.4 ± 20.7 min, P > 0.05). TmLRP-TT and TURP resulted in a significant improvement from baseline in terms of subjective symptoms scoring and urodynamic finding, but no significant difference was found between the two groups. Late complications were also comparable. TmLRP-TT is an almost bloodless procedure with high efficacy and little perioperative morbidity. TmLRP-TT is superior to TURP in safety and is as efficacious as TURP in one-year follow-up. It is a promising technology in the clinical practice field.

COMMENTS

Is TURP out?
The advent of modern laser technology continues to offer a serious threat to the current gold standards for treating BPH, viz. TURP/Open prostatectomy. In a randomized trial comparing TURP with HoLEP, Tan et al.[1] demonstrated that HoLEP is superior to TURP in improving urodynamic bladder obstruction along with shorter catheterization time and decreased blood loss. In a recent randomized trial,[2] HoLEP showed better outcomes as compared to open prostatectomy for adenomas larger than 100 g over a long-term follow-up of five years. However, the learning curve for HoLEP is steep, which has prevented many urologists from accepting this technique. KTP green light laser has also demonstrated equivalence to TURP in a prospective clinical trial,[3] albeit with a follow-up of only six months. Similarly KTP laser prostatectomy has been found to be equally effective and safe as compared to open transvesical prostatectomy in a randomized prospective trial.[4]

In this statistically well-powered randomized prospective trial the authors have compared Thulium laser prostatectomy (ThLRP) to TURP. Over a follow-up of 12 months, they reported equal efficacy of the two techniques and decreased
catheterization time, blood loss and hospital stay in favor of the Thulium laser. Unlike KTP, ThLRP retrieves prostatic tissue for biopsy, has a shorter learning curve than HoLEP. The operative technique most closely resembles TURP as compared to other lasers. Before this technique becomes widely accepted, we await experience from other centers with longer follow-up. However, it is becoming increasingly evident that TURP is facing genuine competition and might be replaced as the gold standard in minimally invasive surgery of the prostate.

REFERENCES


Follow-up after pyeloplasty: How long?

T. J. Nirmal, J. C. Singh
Department of Urology, Christian Medical College, Vellore, India. E-mail: nirmaltj@yahoo.com


SUMMARY

This was a retrospective study of 138 patients who underwent a successful dismembered pyeloplasty over an eight-year period.[1] Patients were divided into three groups based on the duration of follow-up with renal scans. Group one (138) had a renal scan at a mean of nine months after surgery and the split renal function (SRF) before and after surgery was compared. Group two (35) had a second scan at 3.5 years after surgery and group three (29), in addition, had another scan at 5.5 years. The SRF of the scan after surgery and the late scan at 3.5 and 5.5 years were compared. A change in SRF of greater than 5% was considered significant.

The mean (range) SRF was marginally better in all three groups at follow-up. Repeat renal scans at 3.5 and 5.5 years after surgery showed stable SRF, even if the renal function was already diminished. Of 138 patients, only 5 had a significant deterioration in SRF to less than 40%. Hence, the authors have concluded that repeat renal scans in a five to seven-year period after pyeloplasty don't seem to be justified, as most renal units remain stable.

COMMENTS

Dismembered Anderson-Hynes pyeloplasty is a successful treatment for ureteropelvic junction (UPJ) obstruction with success rates as high as 98%.[2] Long-term data in adults Uroscan has shown five to 15-year durability of success.[3] For these reasons, dismembered pyeloplasty remains the first line surgical procedure for the majority of pediatric urologists. Defining a true UPJ obstruction in the pediatric population remains difficult. Serial ultrasounds, measurement of resistive index (RI) using duplex ultrasonography and intravenous urography are few of the various modalities used. Radionuclide renography is one of the modalities with objective measurements. Calculation of SRF and assessing wash out curves is important in the diagnosis and follow-up. However, there are only a few reports in children on how long these patients need follow-up. Also, little is known about the long-term renal function on consecutive renal scans, especially whether loss of renal function in the absence of obstruction might progress with time. The authors have attempted to answer some of these questions.

Apart from the retrospective design, one of the major drawbacks of this study is that the majority of the patients with an immediate postoperative SRF more than 40% were discharged from follow-up assuming that their renal function would remain stable. Hence, only 29 of the 138 patients had follow-up scans at a mean of 5.5 years.

O’Reilly et al. performed a repeat renal scan in 24 patients at 6-19 years after surgery and concluded that the results...