

THULIUM:YAG (REVOLIX®) VAPORESECTION WITHOUT MORCELLATOR VERSUS VAPOENUCLEATION WITH MORCELLATOR (PIRANHA®) FOR THE TREATMENT OF BENIGN PROSTATIC OBSTRUCTION IN LARGE PROSTATE VOLUME GREATER THAN 60ML

Hypothesis / aims of study

Thulium:YAG (Tm:YAG) laser prostatectomy can be operated in the way of vaporesection without morcellator or vapoenucleation with morcellator. No studies have been investigated to compare the efficacy of these different methods. We evaluated the efficacy and safety of Tm:YAG vaporesection without morcellator in greater than 60gm of prostate size by comparison with those of Tm:YAG vapoenucleation with morcellator.

Study design, materials and methods

Between March 2010 and December 2012, 102 patients who had greater than 60gm of prostate volume underwent Tm:YAG prostatectomy without morcellator (n=71, group A) or with morcellator (n=31, group B). An energy setting of 60~70W was used for two techniques. After surgery, resected tissue was morcellated within the bladder in group B. All cases were evaluated preoperatively and at 6 weeks, 3, 6 and 12 months after surgery, by international prostate symptom (IPSS), Qmax, quality of life score (QoL) and post-voiding residual urinary volume. Perioperative parameters included total operating time, laser time, morcellation time, resected tissue weight. Postoperative prostate volume was measured at 3 or 6 months after surgery.

Results

There were no significant differences between group A and group B regarding pre-operative assessments, including the prostate volume (83.8 versus 82.5 ml) and post-operative prostate volume (39.0 versus 32.4 ml). However, there were difference in total operation time (91.8 versus 78.9 min, p=0.022) and laser time (37.3 versus 29.5 min, p=0.042) between the two groups. Mean morcellation time was 11.2±3.6 minute in group B. Group B showed greater resected tissue volume (15.3 versus 25.5 g, p=0.008). There was also significant difference in resection efficiency (0.41 versus 0.86 g/min, p=0.031). However, vaporization efficiency was similar (0.79 versus 0.83 g/min, p=0.148). The calculated percentage of resected volume to vaporized volume was 34.2% versus 65.8% in group A and 50.9% versus 49.1% in group B. Prostate volume decreased 53.5% in group A and 60.7% in group B, respectively. There were no significant differences in improvement of IPSS, QoL and urodynamic findings between the two groups except IPSS score (11.6 versus 8.6, p=0.013) at 6 weeks after surgery. Perioperative complications were almost evenly distributed between the two groups. Furthermore, there was no severe complication in both group.

Interpretation of results

Although Thulium:YAG vaporesection technique without morcellator showed longer operation time and lower prostate volume reduction compared to those of vapoenucleation with morcellator, it is safe and effective surgical procedure.

Concluding message

Thulium:YAG vaporesection technique can be used even in the treatment of large prostate volume with little perioperative morbidity.

References

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Disclosures

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