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Low power HOLEP after failed urolift: A case report using 50 Watt laser

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1. Introduction

Benign prostatic hyperplasia (BPH) affects millions of men worldwide. The UroLift device was recently introduced as a means to perform prostatic urethral lift procedure for lateral lobe hypertrophy in patients with obstructive voiding symptoms, who would like to avoid sexual and ejaculatory dysfunction.[1] Crucially, Urolift has been associated with a failure rate of 7% at 2 years and 14% at 4 years,[2] and with the increasing popularity of the Urolift procedure, urologists should be prepared to perform secondary procedures in cases of Urolift failure. Whilst high power 100W HOLEP has been performed,[3] in this case report, we describe the first use of low power HOLEP using 50 Watt Laser in a case of failed Urolift implantation.

2. Case presentation

A 72 year old very fit and healthy gentleman chose to undergo Urolift procedure, having originally presented with recurrent urinary tract infection and LUTS, despite being on alpha blockers. An uneventful Urolift procedure was performed, using 4 implants, establishing a good wide open anterior channel. Subsequently, however, the patient developed acute urinary retention, and following failed trial without catheter, one week later, urodynamic study confirmed persistent outflow obstruction. Patient was offered HOLEP procedure, at our institution, using low power 50 Watt Laser. Morcellation was performed using Wolf Piranha Morcellator system. Operative time, morcellation time, ease of enucleation, early or late complications were analysed, and learning points identified, for future cases.

Low power HOLEP using 50W Auriga XL laser (Boston Scientific Inc.) was performed under General Anaesthesia using Olympus 26Fr System-pro Laser Resectoscope. Enucleation was performed with relative ease and confidence. The operating surgeon's confidence in performing HOLEP in this case was 4 (on a 1–5 Likert scale). During 80 minutes of enucleation, 70 g of tissue was removed (enucleation rate of 0.875g/min) and sent for histopathological examination. Using Piranha device (Richard Wolf), morcellation time was noted as 17 minutes (morcellation rate 4.11g/min) and was very challenging. Urolift implants prevented expeditious morcellation, frequently jamming in the jaws of the morcellator [VIDEO 1], and one implant was also caught in the irrigation holes of the outer sheath of the resectoscope [Fig. 1]. One small piece of prostate tissue embedded with an implant was unable to be engaged in the morcellator (beach ball effect) and was ultimately removed by cook NGage® Nitinol Stone Extractor device, in a safe manner. A 22F three way catheter was placed at the end of the procedure and slow irrigation was commenced for a few hours post-operatively, as per our institutions protocol. A successful trial without catheter was performed on post-operative Day 1. No intra-operative or post-operative complications were encountered in this case. Patient is awaiting outpatient clinic follow-up.

Supplementary video related to this article can be found at https://doi.org/10.1016/j.eucr.2017.11.029.

3. Discussion

With the increasing popularity of the Urolift procedure and a treatment failure rate of 14%,[2] it is clear that urologists should be

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Fig. 1. Urolift implant caught in the irrigation holes of the outer sheath of the resectoscope.

prepared to perform secondary procedures in cases of Urolift failure. In this case report we have described the first published successful outcome of low power HOLEP using 50 Watt Auriga XL Laser, after previous failed Urolift procedure.

In our case, the procedure was performed safely, and crucially, there were no intra-operative or post-operative complications. Enucleation and morcellation proceeded safely and clearly at all times. Specifically, there was no obvious impediment to surgical technique, even with a low power 50W laser. Tissue planes were not significantly different to standard BPH cases. The implant sutures were easily divided with the low power 50W laser [Video 2], and the implants themselves, did not impede laser energy, being easily excised.

Supplementary video related to this article can be found at https://doi.org/10.1016/j.eucr.2017.11.029.

Enucleation time was 80 minutes, with a respectable rate of enucleation of 0.875 g/min in comparison to standard reported of 1 g/min, and morcellation rate was 4.1 g/min in comparison to standard 5.7 g/min.[4] We feel this lower rate may have been due to several problems encountered during morcellation, in this case. Firstly, metal implants caused difficulties with retrieval, resulting in recurrent "jamming" of morcellator blades. This problem was overcome by morcellating the adenoma in short bursts resulting in small prostate fragments with implants. Secondly, one small piece of tissue embedded with an implant was unable to be engaged in the morcellator (beach ball effect). To retrieve this expeditiously, and to retrieve isolated implants, we used the Cook NGage® Nitinol Stone Extractor, which conveniently fits down the 5Fr working channel of the Olympus morcellator scope, with excellent vision. Finally, one of the Urolift implants was noted to be caught in edge holes of the resectoscope sheath. This was only identified when the scope was removed at the end of the procedure. A subsequent cystoscopy, immediately afterwards, revealed no urethral injury. As the urethral end piece and capsular tab of the implant is only 8mm, we postulated that the implications of a potential urethral injury would be akin to performing an Otis urethrotomy.[5]

4. Conclusion

Low power HOLEP using 50 W Auriga XL can be performed safely and effectively in post-urolift patients. However, morcellation of the adenoma tissue may be complicated by the metallic implants. There are some strategies which can be used to try and improve efficiency of morcellation in such cases.

Disclosure statement

No competing financial interests exist.

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