

Modified en-bloc GreenLEP technique: description and early results (VIDEO).

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Aim

The prostate en-bloc enucleation with GreenLight laser (GreenLEP) was first described by Gomez Sancha in 2015. As many other enucleation techniques GreenLEP is a challenging endoscopic procedure and requires a long learning curve. We describe a modification of this technique aiming to simplify the development of anterior dissection and to ease the learning curve of the procedure.

Materials and methods

The procedure starts with vaporization of tissue between the two lateral lobes at 12 o'clock, from the bladder neck to the apex just proximal to the external sphincter. An hemi-circumferential incision is carried out starting from the right lateral aspect of veru montanum, delimitating the apex of the right lobe and reaching the incision made at 12 o'clock. Mechanical enucleation of the right lobe is carried out using the tip of the scope to develop the virtual space between surgical capsule and adenoma. The dissection is aimed ventrally and the bladder is entered at 10 o'clock. At this point the tissue between the lateral dissection and the 12 o'clock channel previously created is mechanically dissected/vaporized and the anterior aspect of the right lobe is dissected free from the surgical capsule, proceeding from the bladder neck to the apex. The same steps are carried out on the left side. Final steps follow the standard en-bloc GreenLEP procedure, with the incision of crista urethralis, the development of the posterior plane, the division of bladder neck at 6 o'clock delivering the adenoma "en bloc" into the bladder. The procedure ends with morcellation of the adenoma in the bladder.

Results

From april 2016 to december 2018 two surgeons treated 48 patients with the modified en-bloc GreenLEP technique, with the following mean preoperative values: age 71 years (55-91), IPSS 23 (15-30), PVR 36 ml (15-140), Qmax 9 ml/s (4-15), PSA 6 ng/ml (0,5-16,9), prostate volume 103 cc (50-170), adenoma volume 65 cc (30-100), hemoglobin 14,5 g/dl (10,5-17,1), ASA score 2,3 (2-4). Mean operative time was 104 minutes (40-150), laser time 21 minutes (9-48), energy delivered 116.883 J (41.000-255.000). Mean post-operative values were: weight of removed tissue 51 g (24-140), hemoglobin 12,8 g/dl (9,1-15,4), hospitalization 4 days (3-8), time of catheterization 3,5 days (3-8). No patient needed blood transfusions, one had fluid retention following capsular perforation, one needed early endoscopic revision for hemostasis. At 6 months of follow up (40 patients) mean values were: IPSS 6 (2-11), PVR 27 ml (0-49), Qmax 17 ml/s (12-40), PSA 2,5 ng/ml (0,3-6).

Conclusions

Our modification of en-bloc GreenLEP technique as described by Gomez Sancha makes the procedure more systematic, gives additional landmarks helping the surgeon orientation during the enucleation and simplifies the anterior dissection. We think that with this modification the learning curve of this challenging procedure could be easier and shorter.