The "en bloc no touch" HoLEP technique

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Introduction: Holmium laser enucleation of the prostate (HoLEP) is a safe and effective option for benign prostatic hyperplasia (BPH) treatment. Being considered difficult to perform HoLEP is still limited to expert teams at high volume centers. To minimize the learning curve and make HoLEP easier to perform during the last 3 years we progressively modified the traditional 3-lobes technique described by P. Gilling. We present here the main steps and related advantages.

Materials and Methods: From 01/2012 to 12/2014 190 consecutive patients with BPH underwent en-bloc no-touch HoLEP surgery, performed by a single urologist (C.M.S.). A continuous flow 26F Storz resectoscope with 12° optics and 550-µm end-firing laser fiber were employed. A 100W Versapulse holmium laser (Lumenis) was used in most cases (2J/50 Hz), the 120W one in the last few ones (2J/30Hz/medium/long pulse duration). Transurethral morcellation was performed using a 24F rigid nephroscope (Storz) and the Versacut mechanical morcellator (Lumenis).

Results: Enucleation begins at the left apex, incising the mucosa proximal to the veru montanum and finding the right plane between adenoma and capsule. The 5 o'clock incision from the left apex to the bladder neck is optional. The left lobe is isolated from the apex upwards in a side-to-side manner from 5 to 3 o'clock. Its detachment is completed from 3 to 12 0'clock and goes on towards the right side from 12 to 9 o'clock. Going back to the initial left apical incision the mucosa is transversally incised above the veru and the median lobe isolated reaching the bladder neck. The apex of the right lobe is reached and enucleation goes on as described for the left lobe, from 7 to 9 o'clock, joining circumferentially the enucleated lobe. The adenoma is now fixed from 10 to 2 o'clock by the residual mucosa, to be incised respecting the external sphincter. Two oblique incisions are made on the lateral lobes and a final transverse incision on the residual 12 o'clock mucosal strip, nearer to the bladder neck. Now the adenoma can be pushed into the bladder for morcellation. Mechanical detachment of the lobes using the resectoscope and a reduced application of energy separating adenoma and capsule, with the laser fiber at a short distance from the tissue (no touch approach) allow a bloodless precise procedure. Among the advantages of this approach we number: the ability to promptly find the right plane between capsule and adenoma, only once instead of three times, in an easy place (the apex of a lateral lobe); the possibility to progressively develop the right plane between adenoma and capsule under vision with targeted hemostasis, avoiding capsular perforations and/or major bleeding; a better orientation in the space, no rotation of the adenoma during its enucleation; a good control over the external sphincter, preventing its damage; less energy supply to the capsule, implying less voiding symptoms postoperatively.

Conclusions: The en-bloc no-touch HoLEP technique seems to simplify the procedure, making it easier to teach and to learn. Of course, HoLEP efficiency and safety are improved by increasing experience but also by the application of this modified and standardized miniinvasive procedure.