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Laparoscopic simple prostatectomy, a lost child of laparoscopic surgery

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Benign prostatic hyperplasia (BPH) requiring surgery has become a significant public health challenge in recent times as a result of the increase in population longevity. Furthermore, most of these patients have associated comorbidities and treatments, particularly with antiplatelet and anticoagulant drugs causing limitations in the surgical options such as open simple prostatectomy, or even transurethral procedures, which already have high complication rates.

Open prostatectomy has been historically regarded as the treatment of choice for large glands and has been considered the most invasive; however, it has also been the most effective and durable procedure for the treatment of BPH. Laser treatment was previously regarded as an alternative to transurethral resection of the prostate, but nowadays the upper limit of transurethral resection has evolved and increased during the last couple years due to an evolution in laser technology, the different systems produce different qualitative and quantitative effects in tissue, such as coagulation, vaporization, or resection and enucleation via incision. The goal is to achieve similar efficacy parameters, with the same improvements in symptoms and quality of life, but with less morbidity and shorter hospitalisation time. Recent studies have shown that holmium laser enucleation leads to similar outcomes when compared to open prostatectomy in men with large glands, at a significantly lower complication rate [1, 2]. These findings and the advantages of being an endoscopic procedure, have helped laser techniques achieve a place within the field of urology. However, holmium laser enucleation is a surgical procedure that requires experience and relevant endoscopic skills which result in a lengthier learning curve.

The advent of laparoscopy and robotics in urology is an area that has tremendous potential. Laparoscopic simple prostatectomy, either from the inside of the bladder (Freyer procedure) or through the an-

terior prostatic capsule (Millin procedure) has been assessed in patients with BPH [3, 4, 5]. Retrospective studies comparing this technique with open prostatectomy have shown similar functional outcomes and complication rates, as well as, reduced blood loss, catheterization time and hospital stay with the laparoscopic approach [6, 7].

Therefore, a question raised in our minds by reading the excellent review article prepared by Sosnowski et al. is [8]: “If laparoscopic simple prostatectomy has so many advantages regarding operative outcomes, why is this technology so rarely used?”. We personally think that laparoscopic simple prostatectomy is one of the most challenging procedures in urological laparoscopy. One of the major drawbacks of laparoscopic simple prostatectomy is the steep learning curve. We only have to look to its “major brother” laparoscopic radical prostatectomy to see that the learning curve goes from 40 cases to 250 cases depending on the different series. The number of cases needed to archive *plateau* in laparoscopic simple prostatectomy is not defined. In our opinion, the major problem is the small number of cases suitable for this kind of surgery when comparing to radical prostatectomy, ie. 100 radical procedures can be completed by one surgeon in one year, but in the case of BPH it would take 4–5 years. The learning curve depends on the prior experience of the surgeon with pelvic laparoscopic surgery, suturing, etc. The longer operative time in comparison with open surgery is also a reflection of its complexity, but when compared to radical prostatectomy, it is very similar. At the beginning, laparoscopic (LPR) or endoscopic radical prostatectomies (EERP) were time consuming procedures when compared to open approach. Nowadays, the operative time is not a problem. LRP or EERP are shorter than open prostatectomy in many centers where laparoscopy is the surgical technique of choice.

The problem of a long learning curve may be solved with the robotic approach, but this raises the next drawback: the high costs associated with the surgical treatment. There are many articles analysing the cost in robotic-assisted radical prostatectomy, while none are present analysing simple prostatectomy, but evidently endoscopic technologies are less expensive. All these findings have reduced the interest in these approaches and have turned the laparoscopic simple prostatectomy into *the lost child* of laparoscopic surgery to the extent of not even appearing as a treatment choice for BPH in the European Association of Urology guidelines on the treatment and follow-up of non-neurogenic male lower urinary tract symptoms, including benign prostatic obstruction [9].

From our point of view, the optimal surgical management of BPH associated with large prostate glands (>80–100 grams) is department or surgeon dependent.

Laparoscopic simple prostatectomy has the advantages of being a minimally invasive procedure with functional results comparable to traditional open surgery and should be offered as a BPH treatment only in advanced laparoscopic departments. Studies are needed to clarify the cost effectiveness of these techniques and to draw a comparison between laparoscopic and robotic-assisted simple prostatectomy with holmium laser enucleation and other laser technologies in larger prostate glands.

References

1. Skolarikos A, Papachristou C, Athanasiadis G, Chalikopoulos D, Deliveliotis C, Alivizatos G. Eighteen-month results of a randomised prospective study comparing transurethral photoselective vaporisation with transvesical open enucleation for prostatic adenomas greater than 80 cc. *J Endourol.* 2008; 22: 2333–2340.
2. Kuntz RM, Lehrich K, Ahyai SA. Holmium laser enucleation of the prostate versus open prostatectomy for prostates greater than 100 grams: 5-year follow-up results of a randomised clinical trial. *Eur Urol.* 2008; 53: 160–166.
3. Van Velthoven R, Peltier A, Laguna MP, Piechaud T. Laparoscopic extraperitoneal adenomectomy (Millin): pilot study on feasibility. *Eur Urol.* 2004; 45: 103–109.
4. Castillo OA, Bolufer E, López-Fontana G, Sánchez-Salas R, Fonerón A, Vidal-Mora I, et al. Laparoscopic simple prostatectomy (adenomectomy): experience in 59 consecutive patients. *Actas Urol Esp.* 2011; 35: 434–437.
5. Chłosta PL, Varkarakis IM, Drewa T, Dobruch J, Jaskulski J, Antoniewicz AA, Borówka A. Extraperitoneal laparoscopic Millin prostatectomy using finger enucleation. *J Urol.* 2011; 186: 873–876.
6. Porpiglia F, Terrone C, Renard J, Grande S, Musso F, Cossu M, Vacca F, Scarpa RM. Transcapsular adenomectomy (Millin): a comparative study, extraperitoneal laparoscopy versus open surgery. *Eur Urol.* 2006; 49: 120–126.
7. McCullough TC, Heldwein FL, Soon SJ, Galiano M, Barret E, Cathelineau X, et al. Laparoscopic versus open simple prostatectomy: an evaluation of morbidity. *J Endourol.* 2009; 23: 129–133.
8. Sosnowski R, Borkowski T, Chłosta P, Dobruch J, Fiutowski M, Jaskulski M, et al. Endoscopic simple prostatectomy Cent European *J Urol.* 2014; 67: 377–384.
9. Oelke M, Bachmann A, Descazeaud A, Emberton M, Gravas S, Michel MC, et al. EAU guidelines on the treatment and follow-up of non-neurogenic male lower urinary tract symptoms including benign prostatic obstruction. *Eur Urol.* 2013; 64: 118–140. ■

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