



Platinum Priority – Editorial and Reply from Author
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What Do We Know (or Think We Know) About Erectile Dysfunction Following Laser Treatments for Lower Urinary Tract Symptoms?

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Erectile dysfunction (ED) following surgical treatments for lower urinary tract symptoms (LUTS) remains one of the great myths in modern urology. Even for the reference standard transurethral resection of the prostate (TURP) or the longstanding open prostatectomy, sound data on this important issue are missing. Even the methodology to assess postoperative sexual dysfunction in general and ED in particular is controversial. Even though validated tools exist, the value of including partners for questionnaires remains debatable. Thus the effort of Bruyere et al to “bring some light” into this complex issue is welcome [1]. Reporting of the influence on erectile function of GreenLight laser vaporization of the prostate at 532 nm is of utmost importance because this technique is rapidly expanding worldwide.

The authors state for the first time, contrary to several reports [2–5], that for a subgroup of preoperatively potent patients (International Index of Erectile Function [IIEF-5] >18), a significant negative influence on erectile function was found for the GreenLight procedure performed with both the 80-W potassium-titanyl-phosphate (KTP) system as well as the 120-W lithium triborate (LBO) system. Within this consecutive “real-life” cohort of 149 patients, the majority suffered from cardiovascular disease, demonstrated by high American Society of Anesthesiology scores (3 and 4), or were on anticoagulant medication. Not surprisingly, in this group of patients, only 39 men were identified with an IIEF-5 score >18. Unfortunately, due to this rather small subgroup, the authors were not capable of performing multivariate analysis (eg, for age, diabetes, prostate volume, or urinary retention). This analysis, however, would have been extremely beneficial to investigate the etiology of ED following GreenLight laser treatment.

Despite these drawbacks in the methodology of this trial, the fact that persisting de novo ED has been described for this technique for the first time is very relevant. Initially, as have others, our group focused on high-risk patients and on those on anticoagulants for treatment with the GreenLight system [6]. Even though this cohort of patients is expanding, in these men the issue of sexual dysfunction did not seem to be a key concern. With the increasing and ongoing evidence regarding safety and efficacy of this technique, the indications have been increasing as well. Nowadays, younger and healthier men seem like appropriate candidates for vaporizing techniques in general and for the GreenLight procedure in particular. Consequently, reports on the impact on sexual function, like the one by Bruyere et al. [1], gain importance.

It must be stressed that this article [1] contrasts sharply with others that describe no influence [3–5] or even improvement [2] of erectile function following GreenLight vaporization. The reason for this discrepancy remains unclear. One possible explanation might be use of the IIEF versus the IIEF-5 (not incorporating retrograde ejaculation) questionnaire or culture- or language-related issues (even though the IIEF-5 is validated for the French language) in the different studies. In my opinion, looking at the still-unsolved mystery of ED after TURP, I am not sure if more prospective trials with larger cohorts and longer follow-up will produce a definite answer.

Even if this first report on decreased erectile function after GreenLight vaporization appears, in my opinion, to be debatable, we now need to counsel our patients accordingly. In addition, these results need to draw our attention to the matter of ED with regard to other laser sources. Whereas

the KTP and LBO lasers at 532 nm [7] and the holmium: yttrium-aluminum-garnet laser at 210 nm [8] have rather shallow coagulation (or heat affected) zones, the upcoming diode lasers at 940 nm or 980 nm display significantly deeper coagulation zones [9,10], potentially leading to more significant postoperative ED.

I would like to point out that of those patients in the current study with decreased erectile function (or at least decreased IIEF-5 scores), not a single one opted for medical ED treatment. Then again, this “nonchalant” conduct should not keep urologists from further investigating the etiology and erectile function following transurethral laser procedures for LUTS.

Conflicts of interest: The author has received speaker honoraria from American Medical Systems and Olympus.

References

- [1] Bruyère F, Puichaud A, Pereira H, et al. Influence of photoselective vaporization of the prostate on sexual function: results of a prospective analysis of 149 patients with long-term follow-up. *Eur Urol* 2010;58:207–11.
- [2] Paick JS, Um JM, Kim SW, Ku JH. Influence of high-power potassium-titanyl-phosphate photoselective vaporization of the prostate on erectile function: a short-term follow-up study. *J Sex Med* 2007;4: 1701–7.
- [3] Hamann MF, Naumann CM, Seif C, van der Horst C, Jünemann K-P, Braun PM. Functional outcome following photoselective vaporisation of the prostate (PVP): urodynamic findings within 12 months follow-up. *Eur Urol* 2008;54:902–10.
- [4] Kavoussi PK, Hermans MR. Maintenance of erectile function after photoselective vaporization of the prostate for obstructive benign prostatic hyperplasia. *J Sex Med* 2008;5:2669–71.
- [5] Bouchier-Hayes DM, Van Appledorn S, Bugeja P, Crowe H, Challacombe B, Costello AJ. A randomized trial of photoselective vaporization of the prostate using the 80-W potassium-titanyl-phosphate laser vs transurethral prostatectomy, with a 1-year follow-up. *BJU Int* 2010;105:964–9.
- [6] Reich O, Bachmann A, Siebels M, Hofstetter A, Stief CG, Sulser T. High power (80 W) potassium-titanyl-phosphate laser vaporization of the prostate in 66 high risk patients. *J Urol* 2005;173: 158–60.
- [7] Reich O, Bachmann A, Schneede P, Zaak D, Sulser T, Hofstetter A. Experimental comparison of high power (80 W) potassium titanyl phosphate laser vaporization and transurethral resection of the prostate. *J Urol* 2004;171:2502–4.
- [8] Naspro R, Bachmann A, Gilling P, et al. A review of the recent evidence (2006–2008) for 532-nm photoselective laser vaporisation and holmium laser enucleation of the prostate. *Eur Urol* 2009;55: 1345–57.
- [9] Ruszat R, Seitz M, Wyler SF, et al. Prospective single-centre comparison of 120-W diode-pumped solid-state high-intensity system laser vaporization of the prostate and 200-W high-intensity diode-laser ablation of the prostate for treating benign prostatic hyperplasia. *BJU Int* 2009;104:820–5.
- [10] Seitz M, Reich O, Gratzke C, et al. High-power diode laser at 980 nm for the treatment of benign prostatic hyperplasia: ex vivo investigations on porcine kidneys and human cadaver prostates. *Lasers Med Sci* 2009;24:172–8.

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