Counseling on sexual side effects from TURP

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Introduction: *We designed a pilot study to measure preoperative sexual dysfunction risk counseling between sexual medicine experts (SME) and general urologists between monopolar/bipolar transuretheral resection of the prostate (TURP) and laser TURP (LT).*

Materials and methods: *An emailed electronic survey was distributed to members of the North Central Section (NCS) of the American Urologic Association and the Sexual Medicine Society of North America (SMSNA). Overall, 260 (12.3%) completed the survey. Counseling for ejaculatory disorder (EjD), erectile dysfunction (ED), stricture formation and incontinence was assessed. Additional subset analysis between those SME's versus general urologist was done.*

Results: *Overall, 82% (224) identified as general urologists and 18% (49) as SME. Two-thirds were in private practice versus academic. Over 90% of all practitioners "almost always" counsel about the possibility of EjD, with varied risk rate for LT. Overall, 62%(140) for monopolar TURP (MBT) and 60% (110) for LT "almost always" counsel about ED. There was no statistical difference between groups counseling on incontinence, strictures, EjD or ED between SME and general urologists.*

Conclusions: *Sexual side effects of treatment for LUTS/BPH are appreciated by urologists. Most practitioners counsel about EjD, however the incidence varies between MBT and LT. Practitioners counsel their patients on ED less often than EjD. Counseling rates are not improved with those specializing in sexual medicine independent of TURP technique.*

Key Words: artificial urinary sphincter, cadaver study, intrinsic sphincter deficiency, micro-electrical-mechanical system, stress urinary incontinence

Introduction

The relationship between sexual dysfunction (SD) and lower urinary tract symptoms (LUTS) secondary to benign prostatic hyperplasia (BPH) is becoming well accepted. New data has emerged to indicate potential links in epidemiological, physiologic, pathophysiologic and treatment aspects of LUTS secondary to BPH and SD. Male SD may manifest problems such as decreased libido, ejaculation disorder (EjD), erectile dysfunction (ED) or combinations of all three. Treatment of LUTS/BPH using transurethral resection of the prostate (TURP) is a gold standard after failure of medical therapy, which both carry increased rates of SD. How these rates are presented to patients is not known. Likewise, the difference in risk rates presented to patients between monopolar/bipolar TURP (MBT) and laser TURP (LT) is unknown. We designed a pilot study to measure preoperative SD risk counseling between MBT and LT between sexual medicine experts (SME) and general urologist. Our hypothesis was that SME would counsel patients preoperatively more often on SD than general urologist but that the rates of ejaculation dysfunction (EjD) would be reported equally between groups. We additionally hypothesized that the counseling rates of erectile dysfunction (ED) would be under-counseled by general urologist compared to SME. Careful and full disclosure of SD risk is important as men make decisions on what treatments they would like to pursue, and hence we have endeavored to evaluate this issue via an electronic questionnaire.

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TABLE 1. **Demographics**

	Sexual medicine	All others
Total # respondents	49	224
Performing MBT	37 (75%)	189 (84%)
Performing LT	31 (63%)	151 (67%)
Age < 40 years	19 (38%)	34 (15%)
Age > 60 years	5 (10%)	83 (37%)
% academic:private	30 (60%):19 (40%)	58 (26%):166 (74%)
% midwest USA	13 (27%)	166 (74%)

MBT = monopolar/bipolar TURP; LT = laser TURP

Materials and methods

A survey using a balanced Likert scale was distributed via email correspondence with an electronic link to the members of both the North Central Section (NCS) of the American Urologic Association and the Sexual Medicine Society of North America (SMS) Of the 1429 NCS contacts and 685 SMS contacts, 273 (12.9%, 273/2114) responded to the questionnaire regarding their counseling habits prior to MBT and LT with regard to EjD and ED. Counseling about the risk of stricture formation and incontinence was assessed as these are known complications of any TURP. A subset analysis was performed between those identifying as SME specialists versus all other urologists (AO) from this cohort.

Results are primarily presented as percentiles and proportions. Statistical analysis was completed using Chi square tests to evaluate differences in reported counseling for EjD, ED, strictures and incontinence. Comparisons by practitioner type of SME, AO and the overall cohort were performed. Academic versus private practitioners was also evaluated along with the age of the provider less than 40 years old, between 41 and 59 years old, and greater than 60 years old. Location of practitioners was analyzed looking at those who practice in the Midwest of the United States of America versus all other areas. Comparison of those who practice MBT and LT was performed as well. SAS version 9.3 (SAS Institute, Cary, NC, USA) was used for statistical analysis, and a p value of less than 0.05 was considered significant.

Results

Of the 273 physicians, 82% (224) identify as non-SME and 18% (49) as SME, Table 1. All other (AO) respondents (those who were non-SME) identified themselves as general urologists 80% (180) and the rest (20% (44)) as urologist with the following focus: 8%(18) Oncology, 5% (12) Reconstruction, 4% (8) Female Urology, 1.5% (3) Pediatric, 1% (2) Neurourology 0.5% (1). Two-thirds were in private versus academic practice (p = 0.787), and 67% were located in the Midwest of the United States. Eighty-three percent of respondents (n = 226) perform MBT, and 70% (n = 184) perform LT. Respondents identifying as SME were then grouped and compared to all others (AO = 224). Of the SME, 60% (30) are academic, and 75% (37) perform MBT while 63%(31) perform LT, Table 1.

When asked about counseling for the risk of EjD, over 90% of the entire cohort regardless of specialty or type of TURP, responded they "almost always" counsel about the

TABLE 2. **Percentage of physicians who counsel "almost always" for MBT**

	Sexual medicine (37)	All others (189)	Overall (226)
EjD	97% (36)	92% (174)	93% (210)
ED	65% (24)	62% (116)	62% (140)
Stricture	68% (25)	62% (117)	63% (142)
Incontinence	72% (26)	78% (147)	76% (173)

MBT = monopolar/bipolar TURP; EjD = ejaculation disorder; ED = erectile dysfunction

TABLE 3. **Percentage of physicians who counsel "almost always" for LT**

	Sexual medicine (31)	All others (151)	Overall (182)
EjD	94% (29)	90% (136)	91% (165)
ED	58% (18)	59% (89)	59% (107)
Stricture	52% (16)	62% (94)	60% (110)
Incontinence	68% (21)	74% (112)	73% (133)

LT = laser TURP; EjD = ejaculation disorder; ED = erectile dysfunction

possibility of EjD, Table 2 and Table 3. The risk of actually acquiring EjD post-TURP that is quoted to patients varies widely, Figure 1 and 2. Fifty-nine percent (29) of SME quote a risk of 81%-100% for EjD after MBT and 39% (19) after LT compared to AO with respective rates of 49% (110) (MBT) and 31% (69) (LT) (p = 0.425). SME quote higher risk of EjD consistently at 81%-100% rate 37% (18) (LT) and 57% (28) (MBT) of the time. Although this trend towards higher risk of adverse event of EjD is found in all groups, it is most pronounced with LT, Figure 2. Regarding the other three side effects analyzed, the vast majority (over 90%) of respondents correctly quote 0%-20% for the risk of ED, strictures, and incontinence to patients. The rates of EjD were not statistically significant between SME and AO (p = 0.425).

Rates of counseling for ED are lower than EjD - overall 62% (140) of urologists "almost always" counsel for MBT and 59% (107) for LT. SME counsel "almost always" 58% (18) (LT) of the time versus 65% for MBT (24). These rates of ED were similar to the AO group, however, SME quote ED rates "< 20% of the time" or "not at all" for MBT more often than the AO group (27% versus 21.3% respectively, p = 0.387), Figure 3, however, these rates were not statistically significant.

Overall, 63% (142) and 60% (110) of physicians performing MBT and LT, respectively, "almost always" counsel on risk of stricture formation, however only 52% (16) of SME do so for LT compared to 68% (25) for MBT, but not statistically significant (p = 0.112). There was no obvious difference between groups for counseling on incontinence, although overall urologists did counsel patients slightly more than for ED or strictures, but not statistically significant (p = 0.952), Table 2 and 3.

Urologists identifying themselves as SME's are, according to this survey, no better at counseling

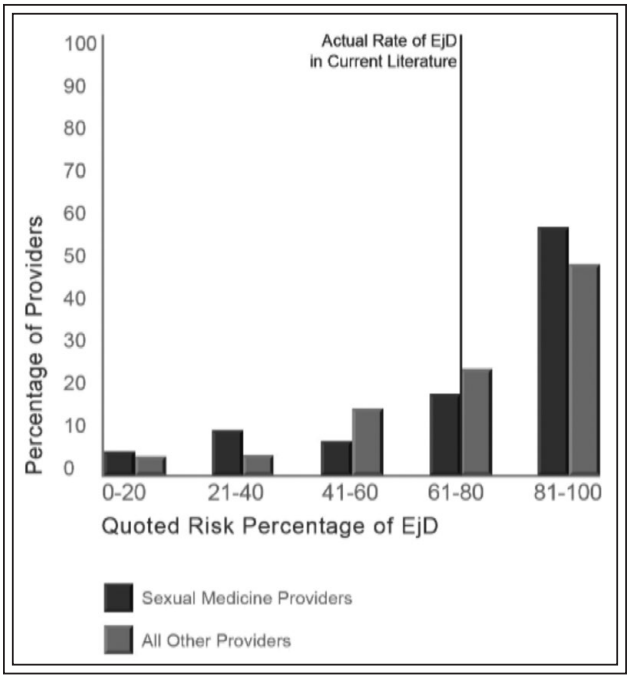

Figure 1. Quoted risk of EjD following monopolar/bipolar TURP.

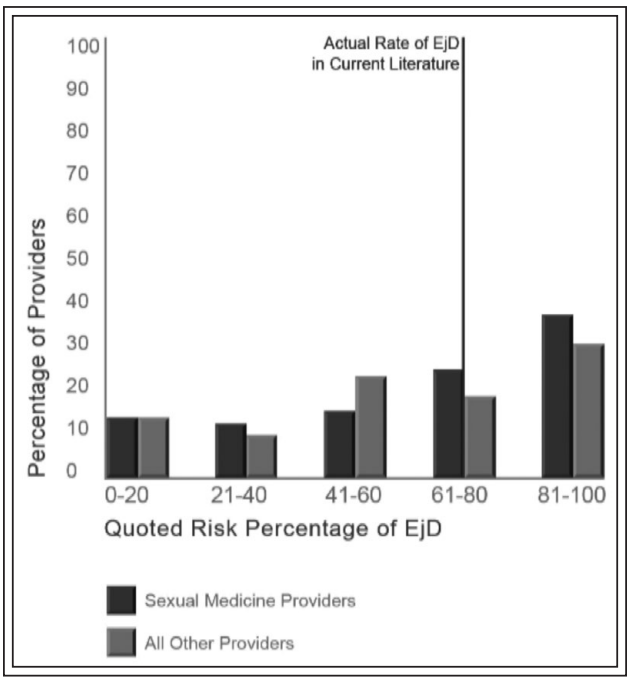

Figure 2. Quoted risk of EjD following laser TURP.

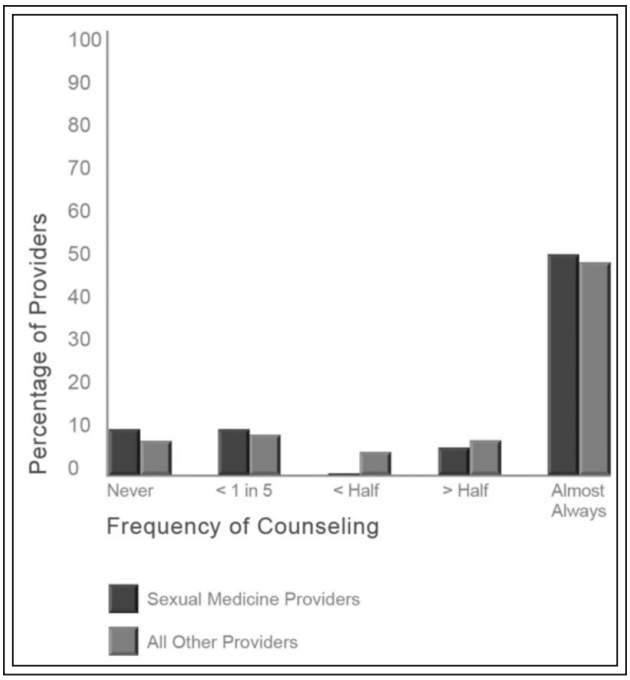

Figure 3. Counseling for the risk of erectile dysfunction (MBT).

their patients, with equal or worse rates in almost all categories. One might expect that sexual medicine physicians would be more attune to the risk and potential impact of ED on his or her patient, however roughly 26% (MBT) and 29% (LT) of SME will counsel patients less than 1 in 5 times or not at all (p = .120). In regards to EjD after LT, 51% of SME quoted 81%-100% as the likelihood of EjD and 19% quoted 61%-80% as compared to the general urologists 49.5% and 25.3% respectively. ED rates were reported between SME and general urologists as 64% versus 61.7% (quoted 81%-100%), 26% (quoted "61-80"), and 16% ("41-60") of the time (p = 0.542). All other urologists excluding SME, tended to have a wider distribution among risk categories in general, Figure 1 and 2.

Discussion

TURP is the gold standard for surgical treatment of LUTS/BPH, and newer variants such as laser TURP are now being performed at increasing levels. Unfortunately, the impact of these different modalities on sexual function is not well described in the literature. Regardless, sexual side effects of treatment for LUTS/BPH are likely underappreciated by urologists but could play a prominent role in patient decision-making, creating a disparity between provider and patient. Almost all accepted therapies for LUTS (surgical or medical) can affect some aspect of sexual health, making it imperative that healthcare professionals understand their patients' concerns and motivations in these two linked diseases.

The Multinational Survey of the Aging Male (MSAM-7)[1] revealed a strong association between the level of sexual intercourse and patients' International Prostate Symptom score (IPSS). The International Index of Erectile Function (IIEF) score was also significantly associated with LUTS severity. Importantly, this association between LUTS and SD persisted when controlled for age and other comorbidities that are known to impact sexual function.

Measures of EjD, reduced ejaculate, and ejaculation pain were also strongly associated with LUTS. The results of the MSAM-7 suggest that older men still have an active sex life and that the severity of LUTS has an impact on sexual disorders independent of other risk factors.[1] The bothersome SD in the aging male was confirmed by Vallancien et al who noted that ED and reduced ejaculation were highly prevalent in men with LUTS and was strongly related to increasing age and LUTS severity.[2]

Less controversial, sexual side effects are commonly reported following TURP with rates of approximately 65%-70% EjD and 14% for ED.[3] However, the numbers of new onset ED have to be evaluated with some skepticism since ED is positively correlated with LUTS/BPH progression and advancing age. Therefore, some of the cases of ED reported after TURP may not have been due to the procedure itself, but rather due to the cumulative incidence of ED that occurs in any population. This possibility is supported by the fact that there is a 5% rate of new onset ED following hernia and cholecystectomy surgeries; procedures which appear to have little relationship to the development of ED.[4] Regardless, TURP and its numerous variants are considered the gold standard for surgical treatment of LUTS/BPH and are generally touted as safe and effective.

The incidence of newly diagnosed postoperative ED in patients treated with MBT as reviewed in the 2010 AUA Clinical Guidelines for LUTS/BPH is around 14 %,[3] with reported values in various studies ranging from 0%-32.5%,[5] 7.7%,[6] 6.5%,[7] 17%,[8] to 14%.[9] Importantly, there is no significant difference reported between bipolar and monopolar TURP on sexual function.[8] Although a majority of our respondents report that they counsel on ED "almost always", it is not an overwhelming majority (58%-64% in all categories). Given the potential impact of this adverse event and with an average of a quarter of urologists responding that they counsel "not at all" or "less than 1 in 5 times", Figure 3, there is a real room for improvement.

Examining MBT versus LT, randomized controlled trials (RCTs) studying HoLEP indicate a similar ED and EjD rate as conventional TURP. While LT (photovaporization of prostate (PVP)) likely has a similar rate of EjD (65%-70%),[10-14] its effect on ED remains controversial with some reports claiming actual improvement, and others reporting significant worse ED post-LT(PVP).[3] The report showing improvement in all IIEF domains at 6 months[15] had numerous design problems including a lack of focus on preoperative sexual function. Another study demonstrated that deterioration of erectile function was experienced in 11.3% while 3.2% improved after LT (PVP).[16] In contradistinction to most study designs, one group of investigators stratified the effect on ED by baseline function demonstrating a sustained impact on ED in those men with normal preoperative erectile function.[17] Thus, at this time the impact on ED cannot be stated with certainty to be any different between the newer forms of LT and standard MBT.

In terms of EjD, our results show that practitioners do counsel preoperatively over 90% of the time. However it is not clear if they are giving an accurate reflection of EjD rates. EjD is the most common sexually related adverse event following this type of surgery, likely from the resection of the bladder neck. EjD is reported by 65%-70% of patients after TURP.[3,18] However our data indicates that practitioners are split across a wide range of risk percentages that they quote to their patients. Effectively, practitioners quote a slightly higher risk of EjD for MBT and slightly more for LT, regardless of their sub-specialty, Figure 2. The wide variance of risk that is quoted indicates that there is no consensus, or at least not one commonly agreed upon by practitioners when counseling patients accurately of potential SD risks of surgery.

The limitations of this paper include its nature as a survey-based study and hence a response bias and selection bias. The use of a balanced Likert scale was used to help reduce biased responses, but the survey was not validated and the overall response rate was relatively low. The low power of this study from low response rate also contributes to the fact that there was no significant difference between SME and AO urologist. SME's were self-identified and could not be validated. This limits the data in the sense that SME's may not actually be experts, but rather general urologist who perform occasional sexual medicine types of surgery like penile implants. A better way to have identified them might have been fellowship trained in sexual medicine. In addition, there were trends but no statistically significant findings.

Conclusion

The literature surrounding the various forms of TURP, as reviewed above, consists of mostly underpowered, self-reported, or single center cohort studies of poor quality that rely on adverse event reporting to make estimates of sexual side effects of these techniques, specifically ED and EjD. The metrics used to judge sexual side effects after TURP are inadequate and should be based on prospective studies and not adverse events, thus the role of TURP on ED and EjD has not been fully elucidated. This fact may account for the wide range of risk that is quoted to patients preoperatively. We now know that practitioners counsel their patients on ED less often than EjD, and that counseling rates are not improved with those specializing in sexual medicine. Any urologist can perform MBT or LT independent of identifying as SME's. The difference between preoperative sexual counseling for MBT and LT does not appear to significantly change how patients are counseled by AO or SME. Follow up on this survey should explore reasons that counseling may not occur, such as personal bias with a practitioner's own complication rate and/or practice workflow that may prohibit appropriate counseling time. Prospective trials with larger patient populations that also take into account preoperative sexual function with validated metrics are greatly needed to clarify the actual incidence of sexual side effects for TURP. □

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