European Journal of Molecular & Clinical Medicine (EJMCM)
ISSN: 2515-8260 Volume 07, Issue 11, 2020

Original research article

A study to assess the incidence of sexual side effects following surgical treatment of BPH in Indian population.

Dr. Gaurav [1], Dr. Amit Kumar[2*]

[1]MCh Resident (Acadmic Senior Resident) Department of Urology, IGIMS, Patna, Bihar, India

[2]MCh Resident (Acadmic Senior Resident) Department of Urology, IGIMS, Patna, Bihar, India

Corresponding Author: Dr. Amit Kumar

Abstract

Aim: to assess the incidence of sexual side effects following surgical treatment of BPH in Indian population.

Materials and methods: The present observational study was conducted in the department of Urology, Indira Gandhi Institute of Medical Sciences Sheikhpura, Patna, from January 2018 - June 2019 among 120 patients diagnosed with BHP. Patients diagnosed with symptomatic BPH and willing for surgical treatment were included in this study. Patients received either of following surgical treatment: TURP/ open prostatectomy to treat BPH

Results: Out of total 120; majority 105 patients treated with TURP and rest 15 patients with open prostatectomy. Majority of the patients, who underwent TURP and open prostatectomy were in the age group between 60- 69 yrs. Only 2 out of 15 (18%) patients treated with open prostatectomy complained of erectile dysfunction (ED). All the 8 patients who had sexual intercourse complained of retrograde ejaculation.

Conclusion: This study suggests that before offering surgical treatment- TURP/ open prostatectomy, physician should discuss possible sexual side effect of these procedure. Otherwise relief from LUTS will not be translated into satisfactory improvement in QoL. LUTS affects only one individual while sexual dysfunction affect couple.

Keywords: TURP, open prostatectomy, Benign prostatic hyperplasia, sexual dysfunction

Introduction

Benign prostatic hyperplasia (BPH) is a common condition in adult men, with a tendency to progress with aging and which, in most cases, causes lower urinary tract symptoms (LUTS), with a prevalence of around 30% in individuals over 50 years. It leads to important impacts on physical and mental health.[1,2] The treatment of LUTS due to infravesical obstruction secondary to BPH is constantly evolving. Therapeutic modalities for moderate and severe conditions begin with pharmacological treatment and may progress to minimally invasive, laparoscopic, robot-assisted or open surgical alternatives.[3]

Until recently, monopolar transurethral resection of the prostate (M-TURP) was considered a gold standard for the treatment of prostates with a volume lower than 80 cm3 due to its effectiveness and low cost.[4-7] However, this established technique is associated with some relevant complications, such as urethral stenosis, bleeding, bladder neck sclerosis and especially post-TURP syndrome, due to the need for hypotonic infusion fluid to avoid electrical conduction. Post-TURP syndrome consists of water intoxication alongside hyponatremia, and can lead to the occurrence of cerebral edema.[8]

The incorporation of bipolar technology (B-TURP) represents a significant evolution in the TURP technique in recent years. B-TURP presents a considerable advantage given the fact that it can be performed with normal saline solution, with excellent results in relation to a greater volume of resection within the same surgical time.[9,10]

Despite the emergence of new technologies, the standard treatment for large adenomas is still open simple prostatectomy (SP), due to the limited availability of these technologies in care centers and the advantage that open access offers when additional joint treatment is needed, such as cystolithotomy and bladder diverticulectomy. However, we know that SP is invasive and presents higher morbidity, with higher rates of bleeding and blood transfusion ranging from 7 to 14%, in addition to prolonged hospitalization time and bladder catheterization in the postoperative period, with higher occurrence the greater the prostate volume.[11-13]

A recent multinational survey of more than 14000 men between the ages of 50 and 80 year indicated that problems with all aspects of sexual function are strongly correlated with the severity of LUTS.[14] The severity of LUTS may be considered a risk factor for sexual dysfunction, similar to diabetes, hypertension, and depression. Sexual disorders and their bothersomeness have been found to be strongly correlated with both age and the severity of LUTS, independent of the presence of other comorbidities.[15] All the four domains of sexual function-erection, ejaculation, orgasm and libido have been studied and reported in western literature. This study has been undertaken to assess the incidence of sexual side effects following surgical treatment of BPH in Indian population.

Materials and Methods

The present observational study was conducted in the department of Urology, Indira Gandhi Institute of Medical Sciences Sheikhpura, Patna, from January 2018 - June 2019 among 120 patients diagnosed with BHP.

Ethical consideration:
The study protocol was approved by the institutional ethics committee. Each study participant provided written informed consent before participation in the study. The study was conducted in accordance with the approved protocol, International Conference of Harmonization – Good Clinical Practice guidelines, principles that have their origin in Declaration and Helsinki.

Inclusion criteria:
Patients diagnosed with symptomatic BPH and willing for medical treatment were included in this study.

Exclusion criteria:
Patients with pre-existing sexual dysfunction were excluded from the study.

Sample size:
Reference values are used to describe the dispersion of variables in individuals. They are usually reported as population-based reference intervals (RIs) comprising 95% of the population. International recommendations state the preferred method as a priori nonparametric determination from at least 120 reference individuals. So at least 120 men diagnosed with BPH were included in the present study.

Initial evaluation: All the patients with complaints suggestive of LUTS due to BPH were thoroughly evaluated with History & Physical examination, DRE & Focused neurological

examination, Baseline blood parameters, USG KUB, Uroflow & PVR, International Prostate Symptom Score (IPSS), (MSF) -4 questionnaire &International Index of Erectile Function (IIEF) questionnaire ,pre-treatment i.e. at OPD visit/at the time of admission.

Treatment procedures
Patients received surgical treatment (TURP/ open prostatectomy) to treat BPH.
Follow-up – after 3 months
1. LUTS evaluation with IPSS Scoring[16]
2. Sexual function assessment using male sexual function (MSF) -4 questionnaire and IIEF -5 questionnaires.[17,18]

Results

Table 1: Distribution according to surgical treatment given

Treatment	No of patients	% age
TURP	105	87.5
Open Prostatectomy	15	12.5
Total	120	100%

Table 2: Age wise distribution of the study subjects

Age group	TURP N (%)	Open Prostatectomy N (%)
40-49	5 (4.8)	0
50-59	30 (28.6)	7 (46.6)
60-69	70 (66.7)	8 (53.4)
Total	105 (100.0)	15 (100.0)

Table 3: Comparison of the sexual side effects of surgical treatment

Treatment	No. ofpatients	ED	EjD	Orgasm disorder	Sexual interest disorder
TURP	105	18%	100%	21.42%	15.23%
Open Prostatectomy	15	18%	100%	25%	33.33%

Discussion

In the present study the predominant age group is 60-69 yrs. This age characteristic is comparable to the studies in the literature. The elderly age may be significant, because age as such can have a bearing on sexual dysfunction as revealed in the Cologne Male Survey.[19]
The sexual function too showed variation among different age groups. The factors, the erectile dysfunction and ejaculatory dysfunction were more common in the age group of 60-69, compared to other age groups. May be because of underlying organic changes already present predisposing them to sexual dysfunction after use of drugs. More patients in the age group 60-69 were significantly bothered by sexual dysfunction. This may be due to the association of sexual dysfunction with increasing age.
TURP

All patients who came for follow up after TURP-aroud 20% of patients complained of ED. The incidence of ED was more in 60-69 years age group this may be due to the thermal injury to cavernosal nerves caused by TURP.

The present investigation reported that 13-14% risk of ED was also associated with TURP with a study by Taher et al.[20] All the 70 patients reported dry sexual intercourse indicating ejaculatory dysfunction post operatively. This is also well explained in the literature. Recent randomized controlled trials have reported a 62–75% incidence rate of EjD, specifically retrograde ejaculation, among patients undergoing TURP.[21] This is consistent with the 65% reported by the 2018 AUA BPH guideline panel members.[22]

In studies comparing monopolar and bipolar TURP, EjD was in the 50% to 70% range. Although this was reproducible across studies, it is likely lower than the real life experience, wherein most providers quote a rate closer to 90% for patients in the preoperative counseling.[23-27]

Open prostatectomy

Only 2 out of 15(18%) patients treated with open prostatectomy complained of erectile dysfunction (ED). Tubaro A et al reported in their study that erectile dysfunction occurred in 3% to 5% of patients undergoing a simple prostatectomy.it was more common in older men than in younger men.[28]

In the 1994 clinical practice guideline for BPH, the rate of reported ED after open prostatectomy was 16.25% for retropubic and 17.7% for the transvesical technique.[29] Dry sexual intercourse was reported by all the 8 patients who had sexual intercourse indicating ejaculatory dysfunction post operatively. Retrograde ejaculation occured in 80% to 90% of patients after surgery.[28,30]

Majority of patients (62.5%) in the 60-69 years age group didn't have interest in sex. Overall one third of all the patients had very weak interest in sex or no interest in sex. Among 15 patients, only 8 could have sexual intercourse. 2 (25%) of them couldn't achieve orgasm.

Conclusion

The present study concluded that TURP leads to a deterioration of sexual function-absence of ejaculation in 100% of the patients. Loss of libido, erectile dysfunction as well as orgasm problems were also observed in varying proportions. After open prostatectomy patients complained of decreased interest in sex, poor erection as well as orgasm disorder. All the patients who had sexual intercourse complained of retrograde ejaculation.

References

1. Chute CG, Panser LA, Girman CJ, Oesterling JE, Guess HA, Jacobsen SJ, et al. The prevalence of prostatism: a population-based survey of urinary symptoms. J Urol. 1993; 150(1):85-9.
2. Verhamme KM, Dieleman JP, Bleumink GS, van der Lei J, Sturkenboom MC, Artibani W, et al.; Triumph Pan European Expert Panel. Incidence and prevalence of lower urinary tract symptoms suggestive of benign prostatic hyperplasia in primary care: the Triumph project. Eur Urol. 2002; 42(4):323-8.
3. Roehrborn CG. Current medical therapies for men with lower urinary tract symptoms and benign prostatic hyperplasia: achievements and limitations. Rev Urol. 2008; 10(1):14-25.
4. Gratzke C, Bachmann A, Descazeaud A, Drake MJ, Madersbacher S, Mamoulakis C, et al. EAU guidelines on the assessment of non-neurogenic male lower urinary tract symptoms including benign prostatic obstruction. Eur Urol. 2015; 67(6):1099-109.

5. Lourenco T, Armstrong N, N'Dow J, Nabi G, Deverill M, Pickard R, et al. Systematic review and economic modelling of effectiveness and cost utility of surgical treatments for men with benign prostatic enlargement. Health Technol Assess. 2008; 12(35): iii, ix-x, 1-146, 169-515.
6. Lourenco T, Pickard R, Vale L, Grant A, Fraser C, MacLennan G, et al.; Benign Prostatic Enlargement team. Alternative approaches to endoscopic ablation for benign enlargement of the prostate: systematic review of randomised controlled trials. BMJ. 2008; 337:a449.
7. Lourenco T, Pickard R, Vale L, Grant A, Fraser C, MacLennan G, et al.; Benign Prostatic Enlargement team. Minimally invasive treatments for benign prostatic enlargement: systematic review of randomised controlled trials. BMJ. 2008; 337:a1662.
8. Rassweiler J, Teber D, Kuntz R, Hofmann R. Complications of transurethral resection of the prostate (TURP): incidence, management, and prevention. Eur Urol. 2006; 50(5):969-79.
9. Mamoulakis C, Skolarikos A, Schulze M, Scoffone CM, Rassweiler JJ, Alivizatos G, et al. Results from an international multicentre double-blind randomized controlled trial on the perioperative efficacy and safety of bipolar vs monopolar transurethral resection of the prostate. BJU Int. 2012; 109(2):240-8.
10. Mamoulakis C, Trompetter M, de la Rosette J. Bipolar transurethral resection of the prostate: the "golden standard" reclaims its leading position. Curr Opin Urol. 2009; 19(1):26-32.
11. 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(1):160-6.
12. Varkarakis I, Kyriakakis Z, Delis A, Protogerou V, Deliveliotis C. Long-term results of open transvesical prostatectomy from a contemporary series of patients. Urology. 2004; 64(2):306-10.
13. Li M, Qiu G, Hou Q, Wang D, Huang W, Hu C, et al. Endoscopic enucleation versus open prostatectomy for treating large benign prostatic hyperplasia: a meta-analysis of randomized controlled trials. PLoS One. 2015; 10(3):e0121265.
14. Rosen R, Altwein J, Boyle P, Kirby RS, Lukacs B, Meuleman E, O'Leary MP, Puppo P, Robertson C, Giuliano F. Lower urinary tract symptoms and male sexual dysfunction: the multinational survey of the aging male (MSAM-7). Eur Urol. 2003;44(6):637-49.
15. Carbone DJ Jr, Hodges S. Medical therapy for benign prostatic hyperplasia: sexual dysfunction and impact on quality of life. Int J Impot Res. 2003 Aug;15(4):299-306.
16. O'Leary MP, Wei JT, Roehrborn CG, Miner M; BPH Registry and Patient Survey Steering Committee. Correlation of the International Prostate Symptom Score bother question with the Benign Prostatic Hyperplasia Impact Index in a clinical practice setting. BJU Int. 2008;101(12):1531-5.
17. Rosen RC, Cappelleri JC, Smith MD, Lipsky J, Peña BM. Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. Int J Impot Res. 1999 Dec;11(6):319-26.
18. Marquis P, Marrel A. Reproducibility and clinical and concurrent validity of the MSF-4: a four-item male sexual function questionnaire for patients with benign prostatic hyperplasia. Value Health. 2001;4(4):335-43.
19. Braun M, Wassmer G, Klotz T, Reifenrath B, Mathers M, Engelmann U. Epidemiology of erectile dysfunction: results of the 'Cologne Male Survey'. Int J Impot Res. 2000;12(6):305-11.
20. Taher A. Erectile dysfunction after transurethral resection of the prostate: incidence and risk factors. World J Urol. 2004;22(6): 457–60.

21. Marra G, Sturch P, Oderda M, Tabatabaei S, Muir G, Gontero P. Systematic review of lower urinary tract symptoms/benign prostatic hyperplasia surgical treatments on men's ejaculatory function: time for a bespoke approach? Int J Urol. 2016;23(1):22–35.
22. Foster HE; Barry MJ; Dahm P; Gandhi MC; Kaplan SA; Kohler TS; Lerner LB; Lightner DJ; Parsons JK; Roehrborn CG; Welliver C; Wilt TJ; McVary KT.Surgical Management of Lower Urinary Tract Symptoms Attributed to Benign Prostatic Hyperplasia: AUA Guideline. J Urol. 2018; 200(3):612-19
23. Arai Y, Aoki Y, Okubo K, et al.: Impact of interventional therapy for benign prostatic hyperplasia on quality of life and sexual function: a prospective study. J Urol 2000,164:1206–1211.
24. Autorino R, De Sio M, D'Armiento M. Bipolar plasmakinetic technology for the treatment of symptomatic benign prostatic hyperplasia: evidence beyond marketing hype. BJU Int 2007;100:983–5.
25. Issa MM. Technological advances in transurethral resection of the prostate: bipolar versus monopolar TURP. J Endourol 2008;22:1587–95.
26. Briganti A, Naspro R, Gallina A, et al. Impact on sexual function of holmium laser enucleation versus transurethral resection of the prostate: results of a prospective, 2-center, randomized trial. J Urol 2006;175:1817–21.
27. Welliver C, Essa A. Sexual side effects of medical and surgical benign prostatic hyperplasia treatments. Urol Clin 2016; 43:393–404
28. Tubaro A1, Carter S, Hind A, Vicentini C, Miano L. A prospective study of the safety and efficacy of suprapubic transvesical prostatectomy in patients with benign prostatic hyperplasia. J Urol. 2001 Jul;166(1):172-6.
29. McConnell JD, Barry MJ, Bruskewitz RC. Benign prostatic hyperplasia: Diagnosis and treatment. Agency for Health Care Policy and Research. Clin Pract Guidel Quick Ref Guide Clin 1994;8:1–17.
30. Varkarakis I1, Kyriakakis Z, Delis A, Protogerou V, Deliveliotis C. Long-term results of open transvesical prostatectomy from a contemporary series of patients. Urology. 2004 Aug;64(2):306-10.

Received: 19-10-2020 // Revised: 07-11-2020 // Accepted: 23-11-2020