Frequency of Erectile Dysfunction after Transurethral Resection of Prostate

Mudassar Saeed Pansota[1], Mumtaz Rasool[2], Hafiz Muhammad Tariq[2], Muhammad Ajmal Malik[2], Muhammad Shahzad Saleem[2]

ABSTRACT

Background: The most effective treatment for symptomatic benign prostatic hyperplasia is surgery. When a patient is diagnosed with BPH and surgery is scheduled, the urologist will usually do transurethral resection of the prostate (TURP) to alleviate symptoms due to its positive results. The effect of TURP on sexual function, on the other hand, is yet unknown and debated. What pathophysiological mechanism causes ED following TURP in people who had normal sexual function before to surgery is unknown.

Objective: The purpose of this study was to determine the incidence of ED in sexually active adult males following TURP.

Materials and Methods: The following are the materials and procedures that were used to complete this project. A total of 165 individuals between the ages of 40 and 65 years old with LUTS symptoms were included in the study. Patients with uncontrolled diabetes, a big prostate, bladder stones, or complicated urethral illness, such as corrected hypospadia or repaired urethral stricture disease, were excluded from the study. Every patient had TURP surgery and was cared for according to our ward routine until he was discharged. After six months, all of the patients were contacted and questioned using the same five-point questionnaire. Each patient's score was tallied once more. It was noted if the score increased or decreased.

Results: The study's participants ranged in age from 40 to 65, with a mean age of 57.50 3.10 years. The majority of the 114 patients (69.09%) were between the ages of 56 and 65. Pre-operative IIEF-5 scores were 18.53 5.24, while post-operative IIEF-5 scores were 15.06 2.50. Patients with ED following TURP were observed in 29 (17.58%) of sexually active adult males, with mild ED in 13 (44.83%), moderate ED in 09 (31.03%), and severe ED in 07 (24.14%).

Conclusion: The occurrence of ED following TURP in sexually active adult males is relatively significant, according to this study. According to this study, pre-TURP sexual counselling should be a standard part of informed consent.

Keywords: benign prostatic hyperplasia, transurethral resection of prostate, erectile dysfunction.

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INTRODUCTION

Human life expectancy has grown in the contemporary age as a result of greater modernity and improvements in healthcare. On the one hand, this is a benefit; on the other hand, there is a rise in age-related problems. BPH (benign prostatic hyperplasia) and its consequences, such as sexual dysfunction, are one of these age-related diseases. BPH and sexual dysfunction are both quite common illnesses that have a negative influence on the lives of our ageing population. Our ageing population's quality of life has suffered as a result of these factors. Many research have looked at a possible link between BPH or lower urinary tract symptoms (LUTS) and sexual function, but the evidence is still inconclusive.[1] Benign prostatic hyperplasia (BPH) is a condition that affects 50% of males over the age of 50.[2] It is the most frequent urological condition in older men across the world.[3] Surgery is the most effective treatment for symptomatic BPH.[4] When a patient is diagnosed with BPH and surgery is scheduled, the urologist will usually do transurethral resection of the prostate (TURP) to alleviate symptoms due to its favourable results.[5] However, the influence of TURP on sexual function is yet unknown and debatable. It's unclear what pathophysiological mechanism causes ED following TURP in people who had normal sexual function before to the procedure. Recent studies have demonstrated that TURP treatment of LUTS improves overall sexual function in patients who had ED and ejaculatory pain prior to surgery, and that this proportion of patients is still larger than those who have any form of sexual problem as a result of TURP.[6]

Poulakis V et al looked at 629 BPH patients who had TURP to see if TURP was a risk factor for erectile dysfunction (ED). The percentage of patients reporting ED climbed to 77 percent six months after TURP. After TURP, there was a 12-percentage-point increase in postoperative, newly reported ED.[7]

Taher A et al looked at 63 BPH patients who had TURP surgery. The average age was 63.3 years (range 49-85 years). Postoperative (TURP) erectile dysfunction was detected in nine (14%) of the patients. The IIEF-5 score was lower in patients who had ED after surgery.[8]

1. Shahida Islam Medical & Dental College / Teaching Hospital Lodhran.
2. Bahawal Victoria Hospital / Quaid-e-Azam Medical College Bahawalpur.

Correspondence: Dr. Mudassar Saeed Pansota
Assistant Professor Department of Urology,
Shahida Islam Medical College, Lodhran.
Email: netygeulis749@hotmail.com

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Pavone C looked examined 264 BPH patients between the ages of 50 and 85 who underwent TURP between 2008 and 2012. Before and after TURP, the International Index of Erectile Function (IIEF) was used to measure sexual function. Pre-TURP, 94.32 percent of the participants said they were sexually active, with satisfactory erectile function in 41.[3] percent of instances, mild/moderate ED in 51.5 percent, and total ED in 1.5 percent. After TURP, 89.4% of the participants reported being sexually active, with satisfactory erectile function in 39.1% of instances, mild/moderate ED in 46.9%, and total ED in 4% of cases.[6]

Because this condition has never been investigated in our population, the current study will aid in generating local statistics on the frequency of erectile dysfunction following transurethral resection of the prostate in patients with BPH. Furthermore, various writers have reported different outcomes in different parts of the world. Other health experts will be informed about the findings of this study.

MATERIALS AND METHODS

Approval from ethical review committee was taken on 16th December 2021 (letter no: SIMC/H.R/21). This descriptive, case series study included 165 male patients. Sample size was calculated by taking post-operative (post TURP) incidence of erectile dysfunction 12%[7], confidence interval being 95% and margin of error 5% using WHO sample size calculator. Non-probability, consecutive sampling was used. Patients with lower urinary tract symptoms (LUTS), such as frequent urgent need to urinate, increased frequency of urination at night (nocturia), difficulty starting urination, urine stream that stops and starts, dribbling at the end of urination, and inability to completely empty the bladder were included. Study was conducted at Shahida Islam Teaching Hospital in Lodhran and Bahawal from July 2020 to June 2021. The study excluded patients with uncontrolled diabetes mellitus, complicated urethral illness such as repaired hypospadias or repaired urethral stricture disease, coagulopathy, UTI, and inadequate kidney function (defined as estimated serum creatinine higher than 1.5 mg/dL).

All enrolled patients had a history, examination, and investigations such as a full blood count, coagulation profile, ultrasound abdomen, and investigations for anesthetic fitness. On a 5-point questioner, all of the patients were questioned. Each patient's score was recorded. Every patient had TURP surgery and was treated according to our ward procedure until he was discharged. After 6 months, all of the patients were contacted and questioned using the same 5-point questioner. Each patient's score was recorded once more. Any rise or fall in the score was recorded. All information was collected, including name, age, BMI, BPH duration, pre-operative IIEF-5 score, post-operative IIEF-5 score, erectile dysfunction, and kind of erectile dysfunction (mild, moderate, severe).

The data was calculated using IBM SPSS software (version 22.0). All continuous variables, such as age and duration of BPH, pre-operative IIEF-5 score & post-operative IIEF-5 score, and categorical data, such as erectile dysfunction & type of erectile dysfunction (mild, moderate, severe), were presented as mean SD, and categorical data, such as erectile dysfunction & type of erectile dysfunction (mild, moderate, severe), were presented as frequency and percentage.

RESULTS

Age range in this study was from 40 to 65 years with mean age of 57.50 ± 3.10 years. Majority of the patients 114 (69.09%) were between 56 to 65 years of age. Mean duration of symptoms 6.69 ± 2.68 months. Mean BMI was 28.52 ± 3.82 kg/m2. Mean pre-operative IIEF-5 score was 18.53 ± 5.24 and post-operative IIEF-5 was 15.06 ± 2.50.

Frequency of ED after TURP among sexually active adult male was found in 29 (17.58%) patients as shown in Figure I with mild ED in 13 (44.83%), moderate ED in 09 (31.03%) and severe ED in 07 (24.14%) patients.

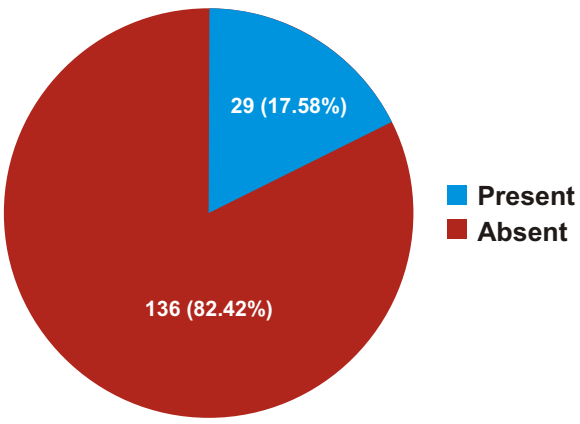


Figure VII: Frequency of ED after TURP among sexually active adult male.

DISCUSSION

The senior guy has a progressive loss in sexual function as he gets older. In the western population, the prevalence of erec-tile dysfunction ranges from 3% in those aged 50-54 years to 26% in those aged 70-78 years.[8] Erectile dysfunction was also prevalent in Japan, with 14.9% of those aged 50-59 years experiencing it and 27.9% of those aged 70-79 years experiencing it. Lower urinary tract symptoms are widespread among these men, with benign prostatic hyperplasia being the most common reason.[11] In the Massachusetts male ageing research, 33.5 percent of males aged 60 to 70 years had BPH.[12] Prostatectomy may have negative implications for the patient in terms of sexual function disruption owing to erectile dysfunction or voiding difficulties.[13-15] After 6 months of follow-up, Hernandez et al[16] discovered a 5.6 percent decline in sexual function in individuals who had had TURP. They also discovered that 66.2 percent of patients who had no sexual activity before to TURP resumed sexual activity following surgery. In a study of 131 BPH patients, Baniel et al found that 44.5 percent of those with severe lower urinary tract symptoms had failed coitus, compared to 13.1 percent of those with moderate symptoms.[17] Various studies have found a 5-40% in-cidence of impotence after prostatectomy based on subjective patient data.[18-22]

This research was done to see how often ED is following TURP in sexually active adult males. The participants in this research ranged in age from 40 to 65 years old, with a mean age of 57.50 3.10 years. The majority of the 114 patients (69.09 percent) were between the ages of 56 and 65. The average pre-operative IIEF-5 score was 18.53 5.24, while the average post-operative IIEF-5 score was 15.06 2.50. After TURP, 29 (17.58 percent) sexually active adult males had ED, with mild ED in 13 (44.83 percent), moderate ED in 09 (31.03 percent), and severe ED in 07 (24.14 percent) individuals. Taher A et al looked at 63 BPH patients who had TURP surgery. The average age was 63.3 years (range 49-85 years). Postoperative (TURP) erectile dysfunction was detected in nine (14%) of the patients. The IIEF-5 score was lower in patients who had ED after surgery.[8]

Hernandez et al studied 189 patients before and after TURP and discovered that 59% of them were sexually active before the procedure.[21] They discovered a 5.65% rate of decrease in sexual function after surgery. In other research, the total incidence of decrease in sexual performance following prostatectomy ranges from 7% to 40%.[23-26] Aria et al[27] compared TURP, TUMT (transurethral microwave thermotherapy), interstitial laser coagulation, and transurethral needle ablation and found no differences. They discovered a mild to moderate reduction in erectile function in 26.5 percent of those treated with TURP and 18 percent to 20% in those treated with laser, TUMT, or interstitial needle ablation.

Francisca et colleagues examined the effects of high-energy transurethral microwave thermotherapy and TURP on sexual function and found no differences[28].

In their study, antegrade ejaculation was retained in 27% of TURP patients and 74% of TUMT patients. However, after a year of follow-up, only 21% of TURP patients and 55% of TUMT patients were sexually happy, suggesting a probable link between antegrade ejaculation and sexual function. In a study of 120 sexually active males before TURP, Mishriki et al discovered that they were all sexually active six months later.[29]

Pavone C looked at 264 BPH patients between the ages of 50 and 85 who had TURP between 2008 and 2012. The International Index of Erectile Function (IIEF) was used to measure sexual function before and after TURP. Pre-TURP, 94.32 percent of the participants said they were sexually active, with satisfactory erectile function in 41.3 percent of instances, mild/moderate ED in 51.5 percent, and total ED in 1.5 percent. After TURP, 89.4% of the participants reported being sexually active, with satisfactory erectile function in 39.1% of instances, mild/moderate ED in 46.9%, and total ED in 4% of cases.[6]

Analogous findings have been linked in comparable studies[30] to a psychological impact caused by the procedure itself, which may interfere with awareness of one's own sexual potential[31].

Some peri-operative complications after TURP, such as drilling of the prostatic capsule or an unknown effect of the thermal lesion on the surrounding nervous structures, have been reported by several authors and may represent important risk factors for the progression of ED in the short or long term.[32]

Despite the fact that the link between ED and transurethral resection of the prostate (TURP) has been demonstrated, this surgical approach, which was initially described in the early 1900s, remains the gold standard for surgical care of BPH.[33]

Simple prostatectomies can be done open, robotically, or laparoscopically in bigger prostates exceeding 100 g. In recent randomised controlled studies, individuals receiving TURP had a 6275 percent incidence rate of ED, notably retrograde ejaculation.[34-36] This is in line with the 65 percent indicated by members of the 2018 AUA BPH guideline group.[28] In contrast, TURP was linked to a 1314% risk of ED, according to a research by Taher et al., who found a greater risk of postoperative ED with lower preoperative nocturnal penile tumescence parameters.[29] The amount of prostate tissue removed or whether monopolar or bipolar TURP was used were not linked to an increased incidence of sexual dysfunction.[34-36] In terms of potential side effects, it's worth noting that if a TURP is performed in individuals who have had brachytherapy for prostate cancer, there's a higher chance of urine incontinence.[37,38]

CONCLUSION

According to this study, the rate of ED following TURP in sexually active adult males is fairly high. Sexual counselling during informed consent should be a routine part before to TURP.

Strength and limitations of study:

The main strength of this study is that it is conducted in two tertiary care institutes that are draining large number of population of Southern Punjab.

Limitation of this study is that we have excluded the diabetic patients, so erectile dysfunction after TURP in diabetics cannot be addressed.

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AUTHOR'S CONTRIBUTION
The following authors full fill authorship criteria as per ICMJE guidelines;

Pansota MS, Rasool M:	Idea conception, drafting the work, final approval, agreed to be accountable for all the work.
Tariq HM:	Design of the work, data acquisition, critical rivision, final approval, agreed to be accountable for all the work.
Malik MA:	Data analysis, drafting of the work, final approval, agreed to be accountable for all the work.
Saleem MS:	Data interpretation, critical revision, final approval, agreed to be accountable for all the work.