

The Effect of Transurethral Resection of the Prostate on Erectile Function in Patients with Benign Prostatic Hyperplasia

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ABSTRACT

Aim: To determine the mean change of transurethral resection of prostate (TURP) on erectile function in patients of benign prostatic hyperplasia (BPH) in a tertiary care hospital.

Methods: A total number of 100 patients who presented with acute urinary retention due to BPH and planned for TURP having age 50-70 years were included in this study. Before TURP validated International Index of Erectile Function (IIEF) scoring Proforma was filled for all patients and EF score was calculated. After 1 month of surgery the patients were called for follow up visit to fulfill the IIEF questionnaire. After receiving the filled questionnaire back, IIEF score was calculated again.

Results: Mean age of patients was 60.47+5.43 years. Mean duration of BPH was 15.83+6.48 months. Mean prostate volume was 64.12+11.46 ml. There was significant difference in pre-op and post-op IIEF score. Mean pre-op IIEF was 16.72+5.29 and mean postop IIEF 11.50+3.01 (p-value <0.001). stratification of age, duration of BPH and pre-op prostate volume was done. There was no significant effect of these confounder variables on pre-op and post-op erectile dysfunction.

Conclusion: TURP is significantly associated with reduction in erectile function in patients of BPH presenting with LUTS.

Keywords: benign prostatic hyperplasia, erectile dysfunction, IIEF score,

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a common illness that affects nearly 210 million of men population globally, and is the most common cause of lower urinary tract symptoms (LUTS)¹. The estimated incidence of BPH is >50% in male population of age above 50 years and up-to 70% in population of age above 80 years. Clinically significant symptoms occur in up-to 50% patients and in remaining the BPH remains silent during the life span².

Transurethral resection of the prostate (TURP) is the ultimate intervention in patients presenting with LUTS due to BPH. TURP procedure is not without complications, erectile dysfunction is one the important complications of TURP with reported incidence of 2% to 82% in Asian countries³. Studies have reported retrograde ejaculation but the effect of TURP on erectile function (ED) is still divisive^{4,5}. ED is defined as a person's incapability to attain or sustain ejaculation for significant sexual performance⁶.

Regarding causal association between the ED and TURP there are controversial reports. Some researchers have reported negative association of TURP with ED, while others have improvements in ED after the procedure. The International Index of Erectile Function (IIEF-5), consisting of five questions each having five possible answers having a maximum total score of 25. Patients are further categorized having mild, moderate, and severe ED on the basis of mean IIEF score⁷.

METHODS

The descriptive prospective study was led in the urology unit of Balochistan Institute of Nephro-Urology Quetta. A total of 100 patients planned for elective TURP having age 50-70 years were included. Diabetic patients, patients having vascular disease, history of previous surgery of bladder neck, prostate or pelvic region were excluded. The study duration was Jan-2020 to Jan-2021.

Before TURP, validated IIEF-5 scoring Proforma was filled for all patients and EF score was calculated. After 1 month of surgery the patients were called for follow up visit to fulfill the IIEF questionnaire. After receiving the filled questionnaire back, IIEF score was calculated.

Data analysis was carried out using SPSS V 20.0. Paired-sample t-test statistics were applied to compare to the pre-op and post-op 1 month IIEF score, taking P-value ≤0.05 as significant.

RESULTS

Mean age of patients was 60.47+5.43 years. Mean duration of BPH was 15.83+6.48 months. Mean prostate volume was 64.12+11.46 ml. Mean pre-op IIEF was 16.72+5.29.

Minimum IIEF was 8.0 and maximum IIEF was 25.0. Mean post-op IIEF 11.50+3.01. Minimum IIEF was 6.0 and maximum IIEF was 25.0. Mean change in IIEF was -4.66+4.62.

Table 1. Descriptive statistics of preop & postop IIEF Score.

	Pre-op IIEF Score	Post-op IIEF	Mean Change in IIEF Score
Mean	16.72	11.50	-4.66
S.D.	5.29	3.01	4.62

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There was substantial change in pre-op and post-op IIEF score. Mean pre-op IIEF was 16.72±5.29. and mean post-op IIEF 11.50±3.01. This difference was statistically significant with p-value of <0.001.

Table 2. Comparison of Pre-op and Post-op IIEF Score.

	Pre-op IIEF	Post-op IIEF	P-value
Mean	16.72	11.50	<0.001
S.D.	5.29	3.01	

DISCUSSION

BPH is a common complication of elderly population. Similarly, ED is also highly prevalent in these patients. Therefore, it is now considered that there is an association between BPH and ED.^{8, 9} There is no doubt that TURP is highly advantageous for relieving the LUTS in BPH patients and is therefore the ultimate treatment option. However, its effects on ED are controversial^{10,11}.

Some recent reports have demonstrated a direct association between these two after controlling age and other effect modifiers. Therefore, it can be assumed that LUTS associated with BPH is an independent factor of ED¹². The simple theory for this causal association may be that hormonal and metabolic changes may affect ED. The other mechanism may be the psychological effects occurring due to retrograde ejaculation or ejaculatory failure or due to damage of the cavernous nerve either as a result of trauma or thrombosis of the cavernous arteries¹³. Duration of catheterization is another possible mechanism cause of ED that is especially true for bed ridden patients. After TURP, UTI occurs in up-to 100% patients, leading to the onset of male accessory gland infections (MAGI), this MAGI can cause different forms of sexual dysfunction such as ED, reduced sexual desire and pre-mature ejaculation^{14,15}.

In present study, we found significant difference in pre-op and post-op IIEF score. Mean pre-op IIEF was 16.72±5.29. and mean post-op IIEF 11.50±3.01 (p-value <0.001).

In a study conducted by Favilla et al. also reported a significant decrease in IIEF after TURP. In their study, mean pre-op IIEF was 24 and it decreased to 18 after 12 months of TURP (p-value <0.001).⁴

But another study conducted by Jaidane et al reported a significant increase in erectile function after TURP. In their study mean pre-op IIEF was 7.18 and after 3 months of TURP IIEF was increased to 20.74 (p-value <0.001)¹⁶.

A recent trial by Oka et al. reported improvements in ED at three months follow-up after TURP surgery¹⁷.

This study is limited by short follow-up period, studies with longer follow-up are warranted to determine the causal association between the TURP and ED.

CONCLUSION

Transurethral resection of prostate is significantly associated with reduction in erectile function in patients of benign prostatic hyperplasia.

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