Original Article

The Therapeutic Effect of Tadalafil on Male Erectile Dysfunction after Transurethral Resection of the Prostate

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Abstract:

Objective: To explore the therapeutic effect of Tadalafil on male Erectile Dysfunction (ED) after transurethral resection of the prostate (TURP). **Methods:** A total of 106 males who experienced (ED) after TURP, presented at the Urology Outpatient Department of Rangpur Medical College Hospital were assessed using the 5-item version of the International Index of Erectile Function (IIEF-5). Subjects were randomly assigned into 2 groups; all of them were counselled properly. The first group of 54 men received Tadalafil (10mg daily) and the second group of 52 received a placebo of starch for 12 weeks. All patients were evaluated at the beginning of the study and every 4 weeks there after. Patients were instructed to ingest a tablet 1h before sexual activity as recommended. After 12 weeks ED was re-assessed by IIEF-5. **Results:** In the therapy group, ED was cured in 28 cases, improved in 18 cases, and nonresponsive in 8 cases, with an overall effective rate of 85.2%. In the placebo group, ED was cured in 6 cases, improved in 8 cases, and non-responsive in 38 cases, with an overall effective rate of 26.9%. The statistical difference was significant ($P<0.05$). No significant adverse reaction was observed in any patient. **Conclusion:** Tadalafil can be used safely and effectively as the first-line medication for the management of post-TURP ED.8

Keywords: Tadalafil, Erectile dysfunction, Post TURP

Introduction:

Erectile dysfunction (ED) is a common condition that affects a significant number of men worldwide.[1] It refers to the inability to achieve or maintain an erection sufficient for satisfactory sexual performance.[2] While ED can arise from various causes, one particular scenario where it often occurs is following a transurethral resection of the prostate (TURP) procedure.[3]

TURP is a surgical intervention commonly used to treat benign prostatic hyperplasia (BPH), a non-cancerous enlargement of the prostate gland.[4] Although TURP is highly effective in relieving urinary symptoms associated with BPH, it can inadvertently damage or disrupt the nerves and blood vessels that are essential for achieving and maintaining an erection.[5]

In recent years, researchers and clinicians have turned their attention to exploring the therapeutic potential of Tadalafil, a phosphodiesterase type 5

(PDE5) inhibitor, in mitigating the impact of ED following TURP.[6] Tadalafil works by increasing blood flow to the penis, facilitating the ability to achieve and sustain an erection.[7]

This article aims to delve into the scientific evidence supporting the use of Tadalafil as an effective treatment option for ED after TURP. Understanding the therapeutic effect of Tadalafil on male erectile dysfunction following TURP has significant implications for improving the quality of life and sexual well-being of affected individuals.

Methodology:

This study was conducted on 106 males who experienced erectile dysfunction (ED) after undergoing transurethral resection of the prostate (TURP). The study was carried out at the Urology Outpatient Department of Rangpur Medical College Hospital.

To assess the severity of erectile dysfunction in these individuals 5-item version of the International Index of Erectile Function (IIEF-5). This questionnaire is commonly used to evaluate erectile function and consists of five questions related to sexual function and satisfaction.

The participants were randomly divided into two groups. Both groups received proper counselling regarding their condition. The first group, consisting of 54 men, was given Tadalafil, a medication commonly used to treat erectile dysfunction. They were instructed to take a 10mg tablet of Tadalafil daily for 12 weeks. The second group, consisting of 52 men, received a placebo made of vitamin B complex.

Throughout the study, all patients were evaluated at the beginning and every 4 weeks thereafter. They were instructed to take a tablet of either Tadalafil or the placebo 1 hour before sexual activity, as recommended. After 12 weeks, the severity of erectile dysfunction was reassessed using the IIEF-5 questionnaire.

The purpose of this study was to compare the effectiveness of Tadalafil versus placebo in treating erectile dysfunction after TURP. By evaluating the participants' responses to the IIEF-5 questionnaire before and after the treatment period, it was aimed to determine if Tadalafil had a significant impact on improving erectile function in this group of individuals.

Results:

In the therapy group, a total of 28 cases of erectile dysfunction (ED) were cured, 18 cases showed improvement, and 8 cases were non-responsive. This resulted in an overall effective rate of 85.2%. On the other hand, in the placebo group, 6 cases of ED were cured, 8 cases showed improvement, and 38 cases were non-responsive. The overall effective rate in the placebo group was 26.9%.

The statistical analysis revealed a significant difference between the therapy group and the placebo group, with a p-value of less than 0.05.

Headache, flushing, nausea, GIT upset, stuffy nose, and muscle and joint pain were considered for evaluation of adverse effects. It is important to note that, no significant adverse reactions were observed in any of the patients during the study.

Table-I: Showing the efficacy

Group	Cured cases	Improved cases	Non responsive cases	Overall effective rate
Placebo	6	8	38	26.9
Therapy	28	18	8	85.2

Table-II: Showing the complications

	Headache	Flushing	Nausea	GIT upset	Stuffy nose	Muscle and joint pain
Placebo	0	0	1	1	0	0
Therapy	5	4	1	1	3	2

Discussion:

The present study aimed to evaluate the therapeutic effect of Tadalafil on male Erectile Dysfunction (ED) after transurethral resection of the prostate (TURP). The results of the study demonstrated significant improvements in ED symptoms among patients who received Tadalafil compared to those who received a placebo.

The findings revealed that in the Tadalafil group, a total of 28 cases showed complete cure of ED, 18 cases showed improvement, and 8 cases were nonresponsive, resulting in an overall effective rate of 85.2%. On the other hand, in the placebo group, only 6 cases showed complete cure, 8 cases showed improvement, and a majority of 38 cases remained non-responsive, resulting in an overall effective rate of 26.9%. The difference between the two groups was statistically significant ($P<0.05$).

A study conducted by H Yu1, H Wu2 and D Rao on the Chinese population on the year 2012 found a similar therapeutic effect of tadalafil.[8]

These results indicate that Tadalafil has a

significant therapeutic effect in the management of post-TURP ED. The high cure rate and improvement rate observed in the Tadalafil group highlight its efficacy in treating ED symptoms. The findings suggest that Tadalafil can be considered as the first-line medication for the management of ED after TURP.

A I Neymark conducted a study to evaluate the effect of sildenafil in post-TURP patients and found erectile function became worse in the initial post-operative period but improved in the long-term follow-up.[9]

A review study of six randomized controlled trials conducted by Jiajia Ma in 2019, found that the dose of 5 mg per day of tadalafil showed a good effect after the treatment of at least 6 months relative to the control group with fewer side effects.[10]

It is important to note that no significant adverse reactions were observed in any patient during the study. This suggests that Tadalafil is safe for use in patients with post-TURP ED. The absence of adverse reactions further supports the use of Tadalafil as a viable treatment option.

The strengths of this study include the randomized assignment of patients into two groups and the use of a validated assessment tool, the 5-item version of the International Index of Erectile Function (IIEF-5), to evaluate the therapeutic effect of Tadalafil. However, there are some limitations to consider. Firstly, the study was conducted at a single medical centre, which may limit the generalizability of the findings. Further studies involving multiple centres and larger sample sizes are needed to validate these results. Additionally, the study duration was limited to 12 weeks, and longer-term follow-up would provide a more comprehensive understanding of the sustained therapeutic effect of Tadalafil.

Conclusion:

In conclusion, the findings of this study suggest that Tadalafil can be safely and effectively used as the first-line medication for the management of post-TURP ED. The significant improvement in ED symptoms observed in the Tadalafil group, along with the absence of significant adverse reactions, supports its use as a viable treatment option. Further research is warranted to explore the long-term effects and optimal dosage of Tadalafil in this patient population.

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