

**EVALUATION OF THE EFFECT OF TRANSURETHRAL RESECTION ON SEXUAL FUNCTION IN MEN WITH BENIGN PROSTATIC HYPERPLASIA**

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**Abstract.** The aim of the study was to evaluate the effect of transurethral resection of the prostate gland (TUR) on erectile and ejaculatory functions in patients with benign prostatic hyperplasia (BPH). The study included 68 patients who underwent TUR. Sexual function was assessed before surgery and 3 and 6 months after surgery using validated questionnaires. The data obtained indicate a multidirectional effect of TUR on erectile and ejaculatory functions: with stability or moderate improvement in erectile function, a significant decrease in the frequency of anterograde ejaculation was noted.

**Keywords:** benign prostatic hyperplasia, transurethral resection, erectile function, ejaculatory function, sexual health.

**ОЦЕНКА ВЛИЯНИЯ ТРАНСУРЕТРАЛЬНОЙ РЕЗЕКЦИИ НА СЕКСУАЛЬНУЮ ФУНКЦИЮ У МУЖЧИН С ДОБРОКАЧЕСТВЕННОЙ ГИПЕРПЛАЗИЕЙ ПРЕДСТАТЕЛЬНОЙ ЖЕЛЕЗЫ**

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**Аннотация.** Цель исследования — оценить влияние трансуретральной резекции предстательной железы (ТУР) на эректильную и эякуляторную функции у пациентов с доброкачественной гиперплазией предстательной железы (ДГПЖ). В исследование включены 68 пациентов, которым выполнена ТУР. Оценка сексуальной функции проводилась до операции и через 3 и 6 месяцев после хирургического лечения с использованием валидизированных опросников. Полученные данные свидетельствуют о разнонаправленном влиянии ТУР на эректильную и эякуляторную функции: при стабильности или умеренном улучшении эректильной функции отмечено достоверное снижение частоты антероградной эякуляции.

**Ключевые слова:** доброкачественная гиперплазия предстательной железы, трансуретральная резекция, эректильная функция, эякуляторная функция, сексуальное здоровье.

**Introduction.** Benign prostatic hyperplasia is one of the most common urological diseases in older men and is often accompanied by lower urinary tract symptoms, decreased quality of life, and sexual disorders. Transurethral resection of the prostate gland has remained the "gold standard" of surgical treatment of BPH for decades [8]. Despite the high effectiveness of the method in eliminating infravesical obstruction, the effect of TURP on sexual function, in particular on erectile and ejaculatory functions, remains a subject of debate. This determines the relevance of a comprehensive assessment of sexual function in patients before and after surgery [1,2].

Transurethral resection of the prostate gland (TUR) is still the "gold standard" of surgical treatment of prostatic hyperplasia. TUR is effective in relation to the functional results of urination after surgical treatment, but it is also associated with a high incidence of bleeding, stress urinary incontinence, and the possible development of TUR syndrome [3, 4, 5].

The systematic review and meta-analysis conducted by the researchers included 69 studies examining functional outcomes and complications after transurethral interventions in prostate hyperplasia, and only three of them examined sexual function after prostate enucleation with a holmium laser or after a pancreatic TUR. At the same time, the results showed a slight decrease in sexual function in both study groups [6, 7].

In this study, the focus of the study was shifted towards evaluating the functional results of urination after surgical treatment. We specifically searched the literature for all the studies evaluating the effect of surgical treatment of prostatic hyperplasia on sexual function.

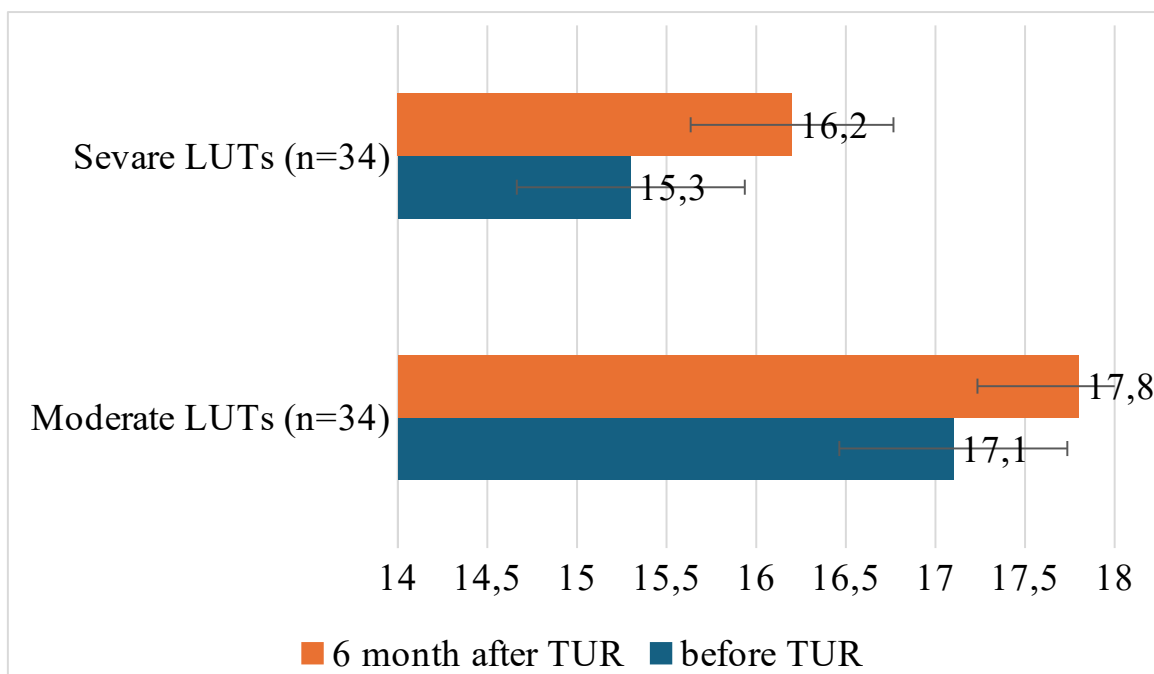
**The aim of the study** was to evaluate the effect of transurethral resection of the prostate gland (TURP) on erectile and ejaculatory functions in patients with benign prostatic hyperplasia (BPH).

**Materials and methods.** The prospective study included 68 patients with clinically and instrumentally confirmed BPH who were treated in the urology department. The average age of the patients was  $65.8 \pm 6.1$  years (from 55 to 78 years). All patients underwent monopolar or bipolar TUR according to the standard procedure. The assessment of erectile function was carried out using the International Index of Erectile Function (IIEF-5). Ejaculatory function was assessed based on a questionnaire of patients, taking into account the presence of antegrade ejaculation. The examination was performed before the operation, 3 and 6 months after the TUR.

**Results.** Depending on the severity of lower urinary tract symptoms (LUTs), age, and prostate volume, patients were divided into subgroups for an in-depth analysis of the effect of TUR on sexual function.

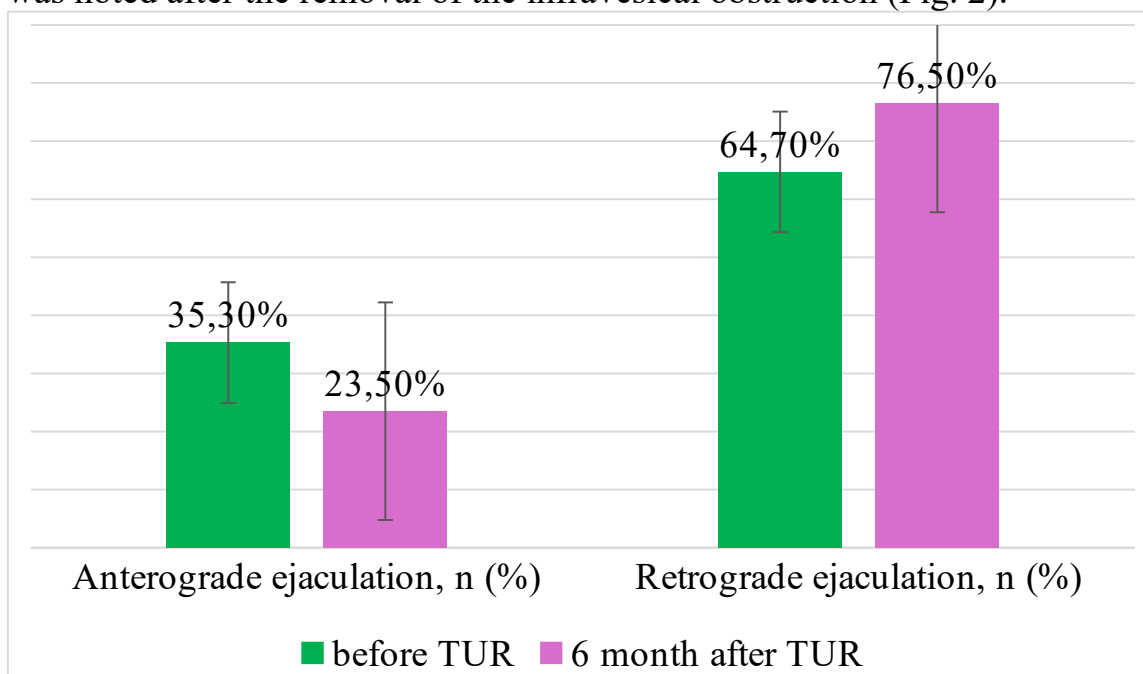
Analysis depending on the severity of LUTs.

The patients were divided into two subgroups according to the IPSS scale: moderate symptoms (8-19 points, n=34) and severe symptoms ( $\geq 20$  points, n=34).



**Fig.1. Dynamics of erectile function (IIEF-5) depending on the severity of LUTs**

In patients with severe LUTs, a more pronounced improvement in erectile function was noted after the removal of the infravesical obstruction (Fig. 2).



**Fig 2. Ejaculatory function 6 months after TUR, depending on LUTs**

Age-dependent analysis

Depending on the age, the patients were divided into subgroups: under 65 years of age (n=32) and 65 years and older (n=36)(Fig. 3).

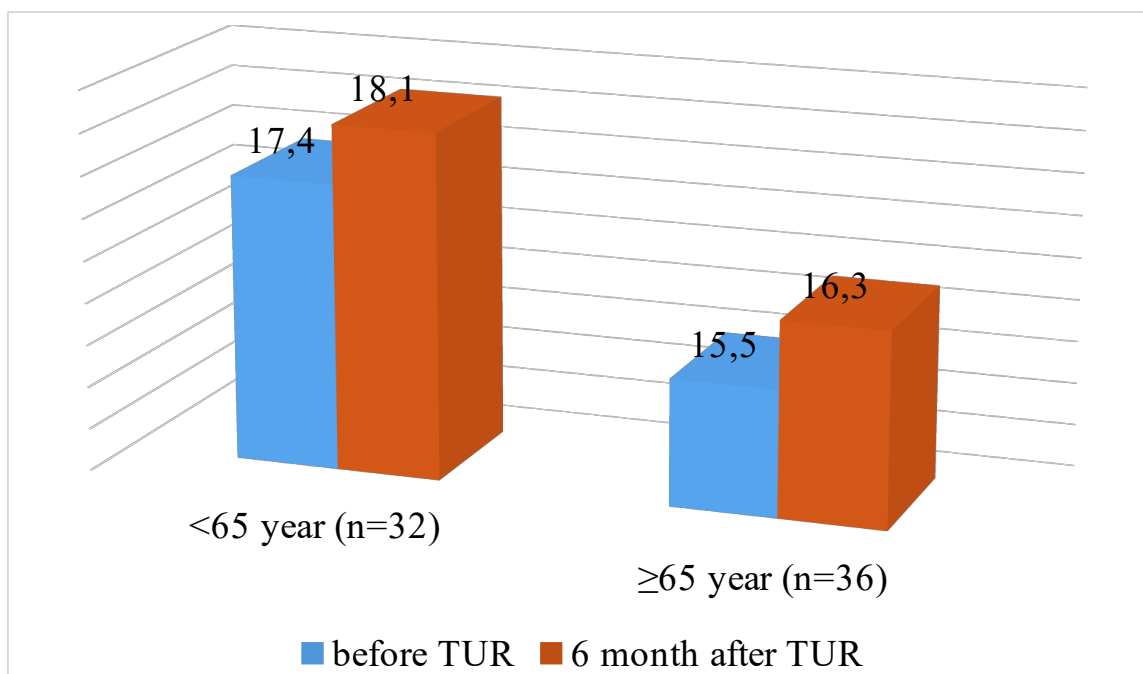


Fig 3. The effect of age on erectile function after the TUR

Patients in the younger age group initially showed higher rates of erectile function, but positive dynamics was observed in both subgroups.

Analysis depending on the volume of the prostate gland (Table 1)

Taking into account the volume of the prostate gland, the patients were divided into two subgroups:  $\leq 50 \text{ cm}^3$  (n=35) and  $> 50 \text{ cm}^3$  (n=33).

Table 1.

**Erectile and ejaculatory functions depending on the volume of the prostate gland**

Indicator	$\leq 50 \text{ cm}^3$	$> 50 \text{ cm}^3$
IIEF-5 to TUR	$16,9 \pm 3,0$	$15,8 \pm 3,2$
IIEF-5 in 6 months	$17,6 \pm 2,8$	$16,4 \pm 3,0$
Anterograde ejaculation, n (%)	11 (31,4%)	9 (27,3%)

Thus, the effect of TUR on erectile function was comparable in all subgroups, whereas the frequency of retrograde ejaculation did not depend on the age and volume of the prostate gland.

**Discussion.** The results obtained confirm the literature data that TUR has a minimal negative effect on erectile function. In some cases, its stabilization or moderate improvement is noted, which may be due to the elimination of chronic obstruction and a decrease in the severity of dysuric symptoms.

With regard to ejaculatory function, TUR is associated with a high frequency of retrograde ejaculation, which should be considered as an important aspect of preoperative patient counseling. Despite the absence of a threat to general health, this

factor can significantly affect patients' satisfaction with treatment results. The most common undesirable phenomenon after transurethral surgery of prostate adenoma is ejaculatory dysfunction. The "dry orgasm" was an almost natural consequence and payment after the surgical treatment of symptoms of the lower urinary tract. The impact of EF on quality of life should not be underestimated, and it should be considered as an important aspect of men's sexual health. The importance of ejaculation can also be emphasized by the close relationship between ejaculation and orgasm intensity.

**Conclusion.** Transurethral resection of the prostate gland is an effective and relatively safe method of surgical treatment of BPH. The operation does not lead to a significant deterioration in erectile function; however, it is accompanied by a marked decrease in the frequency of anterograde ejaculation. Taking into account the data obtained, sexual function should be an integral part of evaluating the results of surgical treatment and discussed with patients at the stage of choosing treatment tactics. Transurethral resection of the prostate gland in patients with benign prostatic hyperplasia provides a significant reduction in the severity of lower urinary tract symptoms, improved urodynamic parameters and a significant improvement in quality of life. The statistically significant results obtained confirm the effectiveness of the method in both patients with moderate and severe symptoms, which justifies the expediency of widespread use of TUR of the prostate gland in clinical practice.

## REFERENCES:

1. Roehrborn CG. Benign prostatic hyperplasia: an overview. Rev Urol. 2005;7 Suppl 9(Suppl 9):S3-S14.PMID: 16985902; PMCID: PMC1477638
2. Lim KB. Epidemiology of clinical benign prostatic hyperplasia. Asian J Urol. 2017;4(3):148-151.DOI: 10.1016/j.ajur.2017.06.004
3. Teo JS, Lee YM, Ho HSS. An update on transurethral surgery for benign prostatic obstruction. Asian J Urol. 2017;4(3):195-198.DOI: 10.1016/j.ajur.2017.06.006
4. Dotowy t, Krajewski W, Dembowski J, Zdrojowy R, Kotodziej A. The role of lasers in modern urology. Cent European J Urol. 2015;68(2):175-82.DOI: 10.5173/cej.2015.537
5. Gupta NK, Gange SN, McVary KT. New and Emerging Technologies in Treatment of Lower Urinary Tract Symptoms From Benign Prostatic Hyperplasia. Sex Med Rev. 2019;7(3):491-498.DOI: 10.1016/j.sxmr.2018.02.003
6. Cornu JN, et al. A Systematic Review and Meta-analysis of Functional Outcomes and Complications Following Transurethral Procedures for Lower Urinary Tract Symptoms Resulting from Benign Prostatic Obstruction: An Update. Eur Urol. 2015;67(6):1066-1096. DOI: 10.1016/j.eururo.2014.06.017
7. Liu Y, Cheng Y, Zhuo L, Liu K, Xiao C, Zhao R, Lu J, Ma L. Impact on Sexual Function of Endoscopic Enucleation vs Transurethral Resection of the Prostate

for Lower Urinary Tract Symptoms Due to Benign Prostatic Hyperplasia: A Systematic Review and Meta-Analysis. J Endourol. 2020;34(10):1064-1074.DOI: 10.1089/end.2020.0141

8. Briganti A, Naspro R, Gallina A, Salonia A, Vavassori I, Hurle R, Scattoni E, Rigatti P, Montorsi F. 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(5):1817-21.DOI: 10.1016/S0022-5347(05)00983-3

### ЛИТЕРАТУРА:

1. Перборн К.Г. Доброкачественная гиперплазия предстательной железы: обзор. Обзор урологии, 2005; 7 Дополнение 9 (Приложение 9): S3-S14.PMID: 16985902; PMCID: PMC1477638

2. Lim KB. Эпидемиология клинической доброкачественной гиперплазии предстательной железы. Азиатский подросток. 2017;4(3):148-151.DOI: 10.1016/j.ajur.2017.06.004

3. Тео Дж.С., Ли Ю.М., Хо ХСС. Обновленная информация о трансуретральной хирургии доброкачественной непроходимости предстательной железы. Азиаты и урологи. 2017;4(3):195-198.DOI: 10.1016/j.ajur.2017.06.006

4. Дотовы Т., Краевский В., Дембовский Ю., Здроевы Р., Котодзей А. Роль лазеров в современной урологии. Центральная Европейская комиссия. 2015;68(2):175-82.DOI: 10.5173/seju.2015.537

5. Гупта Н.К., Ганге С.Н., Маквари К.Т. Новые технологии в лечении симптомов доброкачественной гиперплазии предстательной железы со стороны нижних мочевыводящих путей. Sex Med, редакция 2019;7(3):491-498.DOI: 10.1016/j.sxmr.2018.02.003

6. Корню Ю.Н. и соавт. Систематический обзор и мета-анализ функциональных результатов и осложнений после трансуретральных процедур при симптомах со стороны нижних мочевыводящих путей, вызванных доброкачественной обструкцией предстательной железы: обновленная информация. Eur Urol. 2015;67(6):1066-1096. DOI: 10.1016/j.eururo.2014.06.017

7. Лю И, Чен И, Чжо Л, Лю К, Сяо С, Чжао Р, Лу Дж, Ма Л. Влияние эндоскопической энуклеации и трансуретральной резекции предстательной железы на сексуальную функцию при симптомах доброкачественной гиперплазии предстательной железы в нижних отделах мочевыводящих путей: систематический обзор и мета-анализ. Джей Эндурол. 2020;34(10):1064-1074.DOI: 10.1089/конец 2020.0141

8. Бриганти А., Наспро Р., Галлина А., Салония А., Вавассори И., Херле Р., Скаттони Е., Ригатти П., Монторси Ф. Влияние энуклеации гольмиевым лазером на сексуальную функцию в сравнении с трансуретральной резекцией предстательной железы: результаты проспективного 2-хцентрового

рандомизированного исследования. J Урол. 2006;175(5):1817-21. DOI:  
10.1016/S0022-5347(05)00983-3