

Original Articles

## QUALITY OF SEXUAL LIFE AFTER MICROSURGICAL PENILE DENERVATION IN MEN WITH PRIMARY PREMATURE EJACULATION

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### Summary

Premature ejaculation (PE) is the most common sexual dysfunction in men, yet it is not well studied. Its frequency reaches 30% for men from 18 to 59 years of age in different countries. The aim of this article was to investigate the quality of sexual life in men with primary PE operated on with microsurgical penile denervation, using the Brief Male Sexual Functional Inventory (BMSFI). From September 2011 to March 2014, 22 patients were operated on with microsurgical penile denervation in the urology clinic of the University Hospital - Pleven and the Department of Urology at UMHAT Ruse AD. The mean result from the BMSFI in patients was 22 points preoperatively, indicating significant worsening of sexual function and quality of life in all five questionnaire domains. After surgery, the results increased to 28, 33 and 39 respectively, at 3, 6 and 12 months, respectively. Premature ejaculation not only leads to problems in controlling ejaculation but also worsens the overall sexual function and quality of life of patients.

**Key words:** premature ejaculation, sexual function, microsurgical denervation

### Introduction

Premature ejaculation (PE) is the most common sexual dysfunction in men, yet it is not well studied. Its frequency reaches 30% for men from 18 to 59 years of age in different countries.

The etiology of PE is unclear. As a reason for its occurrence, mention is made of anxiety, penis hypersensitivity and dysfunction of 5-HT receptors.

Premature ejaculation is generally divided into primary (emerging from the beginning and almost all sexual contacts) and secondary (situational – occurring rarely under certain provoking factors) [1].

Treatment of PE is conservative, but none of the validated methods gives good and lasting results, and the rate of discontinuation of treatment for patients is very high. Surgical treatment is in the research phase and its role is controversial [2].

Our goal was to investigate the quality of sexual life in men with primary PE operated with microsurgical penile denervation (MSDP) using the Brief Male Sexual Functional Inventory (BMSFI) preoperatively on the third, sixth and twelfth month after operative

intervention.

## Materials and Methods

From September 2011 to March 2014, 22 patients were operated with MSDP in the urology clinic at the University Hospital – Pleven and the Department of Urology at UMHAT Ruse AD.

The essence of the MSDP method is to cut the nerve endings responsible for the superficial sensation of the head of the penis. In the case of a motorway-type innervation, when the nerve diameter is 2-3 mm after the break, the two ends are sutured with a 7/0 polypropylene thread

intrafascicularly.

In the case of mesh type innervation, when there are multiple nerve endings up to 0.5 mm in size, it is impossible to apply stitches. In this case, a maximum number of nerve breaks are terminated without recovery. The operation is performed using 4x magnification glasses (Figure 1).

The mean age of the patients was 27.4 (18-39) years. Evaluation of sexual function by BMSFI was performed preoperatively and we monitored the patients for 1 year postoperatively in order to evaluate the long-term and lasting results of the treatment applied.



Figure 1. Microsurgical penile denervation (operation on K.M.S. 2013 - Genov)

## Results

The mean result in patients preoperatively from BMSFI was 22 points – indicating significant worsening of sexual function and quality of life

in all five questionnaire domains.

After surgery, the results increased to 28, 33 and 39 respectively, at 3, 6 and 12 month, respectively. The results in the domain of ejaculation had changed and increased most

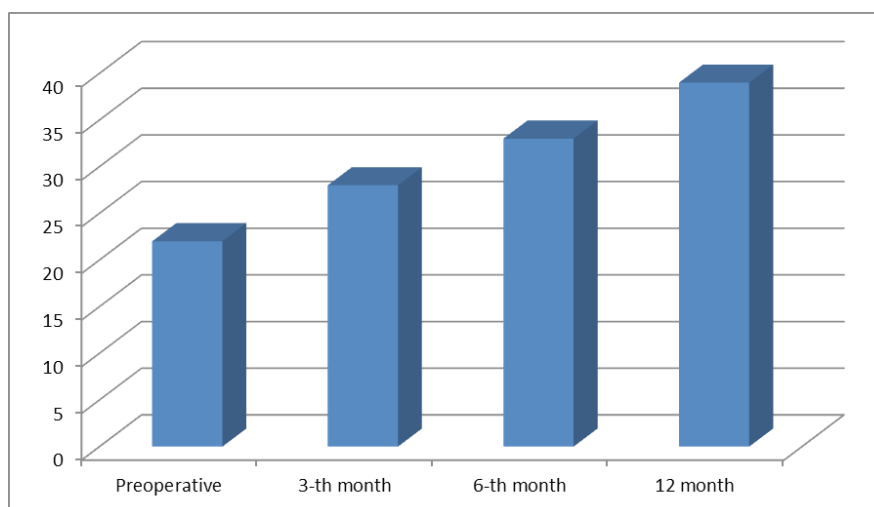


Figure 2. Increase in BMSFI questionnaire results

rapidly and clearly, but they also increased the results in all other domains, showing a higher end-to-date satisfaction of patients from their sexual lives (Figure 2).

## Discussion

In their study in 138 patients, Alyaev and Akhvlediani compared the efficacy and safety of selective penile denervation to that of circumcision for primary PE. The patients were divided into two groups. Group 1 (n=50) underwent selective penile denervation by dissecting about a half of dorsal penile nerve branches. In group 2 (n=88) circumcision was carried out using a guillotine technique. By the end of follow-up, 88% patients in group 1 and 10.2% in group 2 had no signs of primary PE. At 12 months, the intravaginal ejaculation latency time (IELT) index increased 6-fold in patients of group 1 from  $53.6 \pm 12.7$  to  $335.6 \pm 81.5$  seconds, while it remained unchanged in group 2 with  $51.8 \pm 10.4$  seconds at baseline and  $53.9 \pm 20.1$  seconds at the end of follow-up. The resulting effectiveness of selective penile denervation and circumcision for primary PE was 88% and 10.2%, respectively, with comparable safety [3-5].

David Prologo et al. evaluated expansion of image-guided interventional cryoablation techniques in PE. They enrolled 24 men with PE. The overall success was 100%. Initial median IELT was  $54.7 \text{ seconds} \pm 7.8$  (n=24) and increased to a maximum of  $256 \text{ seconds} \pm 104$  (n=11; p=0.241) by day 7 and decreased to  $182.5 \text{ seconds} \pm 87.8$  (n=6; p=0.0342) by day 90. The mean IELT remained at  $182.5 \text{ seconds} \pm 27.6$  at day 180 (n=23; p<0.0001) and decreased to  $140.9 \text{ seconds} \pm 83.6$  by 1 year (n=22; p<0.001). They concluded that CT-guided percutaneous unilateral cryoablation of the nerves was a short and safe, single-day outpatient operation for the treatment of PE [6].

Zhang et al. enrolled a total of 101 eligible persons with primary PE. They performed selective resection of dorsal nerves (SRDN) of the penis on 40 patients. The rest of the patients (61) underwent circumcision only and served as a control group. The post-operative data on the surgery, both IELTs and perceived control abilities were significantly increased after SRDN

( $1.1 \pm 0.9$  min vs.  $3.8 \pm 3.1$  min for pre- and post-operative IELT, which was statically significant, p<0.01), whereas the post-operative results were not significantly improved in the control group ( $1.2 \pm 0.7$  min vs.  $1.5 \pm 1.1$  min, p>0.05). Also, there were no statistically significant differences between both BMSFI composite and subscale scores in the two groups after surgery. The conclusions of authors were that SRDN was effective in delaying ejaculation and improving ejaculatory control and that treatment method did not effect erectile function [7].

Xin et al. investigated 120 men with PE and 66 healthy males by performing biopsiometry of the head and penis hull. Patients in the first group were found to have a much lower vibration threshold at both locations. With age, the threshold increased in all locations of the penis [8].

Bemelmans et al. claimed the opposite. They performed bioteisimetry on 31 impotent men, and concluded that this method of studying the penile glans innervation was not applicable and could not replace neurophysiological tests [9].

Vanden Broucke et al. also examined latent ejaculation time in fifty-eight healthy men and a vibrational sensation at six locations of the penis with two different devices, finding no correlation between penile sensitivity and the time of ejaculation [10].

## Conclusions

Premature ejaculation not only leads to problems in controlling ejaculation but also worsens the overall sexual function and quality of life of patients. Improving control and lengthening ejaculation time leads to higher end-to-side patient satisfaction in all aspects of sexual function and life.

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