

CLINICAL AND FUNCTIONAL ASSESSMENT OF THE EFFICIENCY OF LASER CORRECTION OF GENITAL PROLAPSE DISORDERS IN WOMEN

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ABSTRACT

The purpose. Evaluation of the effectiveness of the method of laser correction of pelvic floor incompetence and its impact on the clinical and functional state and quality of life (QOL) of women with genital prolapse.

Material and research methods. Investigated 102 patients with violations of the architectonics of the pelvic organs, whose age was 57 ± 13.6 years. The studied patients, depending on the method of genital prolapse correction, were divided into 2 groups: the 1st main group (n = 52) with the use of laser therapy and the 2nd comparison group (n = 50) with surgical treatment. The POP-Q system was used to assess the degree of genital prolapse. The severity of manifestations of genital prolapse before and after treatment was assessed using the PFDI-20 questionnaire. As a way to assess the QoL of women with PG, a questionnaire was conducted using the EuroQol - 5D and EQ-VAS questionnaires before and after treatment.

Results. In the course of the study, it was revealed that the quality of life and clinical manifestations of genital prolapse in women after correction of genital incompetence by non-invasive and invasive methods had significant differences in the compared groups depending on the degree of prolapse.

Conclusion. Thus, fractional laser therapy turned out to be more effective than surgical correction for grade 1–2 genital prolapse as a high-tech minimally invasive method, the advantage of which was to improve the quality of life and clinical and functional state of women with pelvic organ prolapse.

Key words: genital prolapse, POP-Q, PFDI-20, the quality of life, laser therapy, surgery treatment.

INTRODUCTION

In obstetrics and gynecology, disorders of pelvic floor failure and genital prolapse (PG) in women, the frequency of which occur both in women of reproductive age and in the older age group, are of particular importance.

Pelvic floor prolapse is a syndrome of prolapse of the pelvic and pelvic organs in isolation or in combination, which negatively affects the quality of life (QOL) of women. According to world data, from 2.9 to 53% of women note some manifestation of pelvic organ prolapse [1-3]. Up to 47% of patients with pelvic floor organ prolapse are women of working age [4]. According to the Women, s Health Initiative Study, among 16 616 women of perimenopausal age, the incidence of PG was 14.2%, cystocele - 34.3%, rectocele - 18.6% [5]. In most cases, pelvic organ prolapse is practically asymptomatic, which indicates its greater prevalence in the population [6, 7]. Due to the diversity of the clinical picture of pelvic organ prolapse and associated clinical manifestations, the disease is interdisciplinary in nature.

The most common issues in gynecology are the correction of genital prolapse, pelvic floor muscle failure and associated clinical manifestations such as urinary incontinence. Traditionally, surgery has been the main treatment for stress urinary incontinence. At the same time, surgical treatment is not indicated for all patients, in addition, surgical techniques in some cases are associated with side effects and complications, such as obstruction of the lower urinary tract, disorders and discomfort during intercourse, rather frequent recurrences of prolapse and urinary incontinence [1, 2, 9]. This prompts the search and implementation of new conservative and minimally invasive methods for the correction of PG. Currently, in practical medicine, laser technologies are actively used as an alternative method for treating PG [8]. Thus, the search for optimal and effective methods of prolapse correction aimed at restoring the clinical and functional state of the pelvic organs and increasing the QoL of women open up new opportunities in the treatment of pelvic organ prolapse.

The purpose of the study was to evaluate the clinical and functional effectiveness of laser therapy as a high-tech, minimally invasive method for correcting internal genital prolapse in women.

Materials and research methods. The study involved 102 patients with impaired architectonics of the pelvic organs after childbirth, after gynecological operations (amputation and extirpation of the uterus), whose age was 57 ± 13.6 years. The studied patients were divided into 2 groups depending on the method of

PG correction. The 1st main group consisted of 52 patients with PG, treated with a non-invasive fractional laser method. The 2nd comparison group included 50 patients with PG who were operated on by a traditional surgical method, such as anterior or posterior colporeorrhaphy.

All patients underwent an assessment of the degree of genital prolapse using the international classifications POP-Q (Pelvic Organ Prolapse Quantification). In order to detail the severity of manifestations of internal genital prolapse before and after treatment, the PFDI-20 questionnaire was used, which contains three groups of questions. The first group (POPDI-6) includes questions concerning the symptoms of pelvic organ prolapse, the second group (CRAD-8) assesses the degree of colorectal-anal disorders, and the last, third group (UDI-6) involves the characterization of symptoms of urinary incontinence. As a way of assessing the physical, psychological, emotional and social characteristics of the condition of women with PG, a questionnaire was conducted using modern methods for assessing QoL (EuroQol - 5D and EQ-VAS) before and after treatment.

The statistical analysis was carried out using the Statistica for Windows version 10. To statistically describe the relationship between various parameters, the Spearman's rank correlation coefficient was calculated. The significance of the differences was checked using the Student's t-test, where the level of statistical significance was considered to be $p < 0.05$.

Research results and their discussion. After assessing the degree of PG using the international classifications POP-Q, depending on the degree of PG, both groups were divided into two subgroups: the 1st (main) group is represented by subgroups: 1a - with 1-2 degrees of PG ($n = 29$) and 1b - from 3-4 degrees of PG ($n = 23$); The 2nd comparison group is divided accordingly, 2a - with 1-2 degrees of PG ($n = 25$) and 2b - with 3-4 degrees of PG ($n = 25$).

Based on the results of the study, it was revealed that the quantitative characteristics of the clinical manifestations of genital prolapse in women according to the PFDI-20 questionnaire after correction of genital incompetence by non-invasive and invasive methods had significant differences in the compared groups depending on the degree of prolapse. A more significant improvement in the clinical and functional state and a decrease in the severity of clinical manifestations of grade 1–2 prolapse was observed in patients of the main group during laser therapy as compared to the comparison group of patients with grade 1–2 genital prolapse after surgical treatment, since the average indicator according to the PFDI questionnaire -20 in subgroup 1 was 1.9 times lower than in subgroup 2 ($p < 0.01$). Whereas, in the patients of the comparison group with 3-4 degrees of genital prolapse, a relatively high efficiency of surgical correction was observed

and the average value of PFDI-20 scores was reduced by 1.7 times relative to the clinical parameters of patients in the main group with 3-4 degrees of genital prolapse after laser correction ($p < 0.05$).

In the course of the study, it was revealed that QOL and its physical, psychological, emotional and social components in women after laser and surgical correction of pelvic organ prolapse had statistically significant differences in the compared groups, depending on the degree of prolapse and the method of exposure. A more significant increase in QoL, in view of improved health status and a decrease in the severity of clinical manifestations of PG was observed in patients after laser therapy compared with surgical correction, since the average values of the QoL components according to the EQ-5D questionnaire, such as self-service (EQ-2) ($p < 0.01$), the presence of pain / discomfort (EQ-4) ($p < 0.05$) and anxiety / depression (EQ-5) ($p < 0.01$), over time, significantly improved in group 1a. Whereas, in group 2a, the average indicators of the physical (EQ 1-2), social (EQ-3) and emotional-psychological components (EQ 4-5) of the EQ-5D questionnaire after invasive correction did not improve significantly ($p > 0.05$). Also, the average EQ-VAS in group 1a increased by 18.9% after treatment, compared to group 2a with an indicator of 11.4% ($p < 0.01$). However, in groups 1b and 2b after treatment, the differences in mean values of the 3 components according to EuroQol-5D and health status according to EQ-VAS were not statistically significant ($p > 0.05$).

Conclusions. Thus, a subjective assessment of the effectiveness of the performed non-invasive and invasive methods of correction of internal genital prolapse in women showed that the use of both fractional laser therapy and surgical treatment as methods of correction of genital prolapse in women have a high clinical and functional efficiency. However, fractional laser therapy turned out to be more effective in grade 1–2 PG, the advantage of which was to improve the QOL components and the clinical and functional health status of women with PG, while surgical treatment was highly effective in grade 3 and 4 genital prolapse in women.

REFERENCES

1. Gvozdev M.Yu. et al. Preliminary analysis of the Russian experience of 2002–2012. Let's experiment. and wedge. urology. 2012; 4: 32-8.
2. Abrams P et al. Incontinence. 4th International Consultation on Incontinence. Paris, France. Health publications, 2009.

3. Vo K, Sundgot-Borgen J. Are former female elite athletes more likely to experience urinary incontinence later in life than non-athletes? *Scand J Med Sci Sports* 2010; 20 (1): 100-4.
4. Davila GW. Nonsurgical outpatations therapies for the management of female stress urinary incontinence: long-term effectiveness and durability. In: *Advances in urology*. 2011; p. 529.
5. Pushkar D.Yu. et al. Modified sling operations for correction of stress urinary incontinence in women. *Reconstructive plastic surgery*. In the book: *Collection of scientific papers*. M., 1998; with. 22-30.
6. Chapple CR, Bosch R, Hanus T. Female incontinence. *Eur Urol* 2000; 38 (4).
7. Dobrokhotova Yu.E., Ilyina I.Yu., et al. Peculiarities of urination in gynecological patients. *Gynecology*. 2013; 15 (5): 48-50.
8. Dobrokhotova Yu.E. Genital prolapse and urinary incontinence: treatment options. *Consilium Medicum*. 2016; 18 (6): 94–97.
9. Novara G et al. Updated systematic review and meta-analysis of the comparative data on colposuspensions, pubovaginal slings and midurethral tapes in the surgical treatment of femail stress urinary incontinence. *Eur Urol* 2010; 58 (2): 218–38.