



## Pelvic Organ Prolapse, Methods of Surgical Correction of Pelvic Organ Prolapse, Literature Review

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**Abstract:** Pelvic organ prolapse is a widespread pathology that usually begins in the reproductive age and affecting negatively to the quality of life of women progressively, causing depression, social isolation, sexual dysfunction, and reduced ability to work. One of the most common types of pelvic prolapse is the prolapse of the anterior vaginal wall, which changes the physiological position of the anterior vaginal wall, cervix and bladder, which leads to such disorders as frequent urination, urinary incontinence, incomplete emptying of the bladder, feeling of a foreign body in the vagina [1,4]. In the structure of gynecological morbidity, prolapse and prolapse of the pelvic organs account for up to 28% of cases [1]. With an increase in life expectancy, the frequency of this pathology increases [3,4].

**Key words:** anatomical and functional failure, cystocele, genital organs, gynecology, pelvic floor prolapse.

**Introduction.** According to world data, from 2.9 to 53% of women report certain manifestations of pelvic organ prolapse [5]. Up to 47% of patients with pelvic organ prolapse are women of working age [6]. According to the Women's Health Initiative Study, among 16616 women of perimenopausal age, the incidence of uterine prolapse was 14.2%, cystocele 34.3%, rectocele 18.6% [7]. In women younger than 40 years, pelvic organ prolapse occurs in 26% of cases, and such an increase in the incidence of this pathology in patients of this age group increases the urgency of this problem [1,8].

Clinically, can occur prolapses of the anterior and posterior walls of the vagina, central or apical prolapse, prolapse of the uterus or vaginal fornix in its absence. Anterior vaginal wall prolapse may be accompanied by cystocele and urethral hypermobility leading to stress urinary incontinence. When the posterior wall of the vagina prolapses, a hernia of the rectum often develops – and it is called rectocele. Many patients seek medical help with already expressed stages of prolapse: III-IV according to the POP-Q quantitative classification (from the English Pelvic Organ Prolapse Quantification) [9].

The most common modern classification is the POP-Q scale, which is approved by the American Society for Urogynecology, the American College of Obstetricians and Gynecologists, and the National Institute for Health and Care Excellence in Great Britain.

**POP staging according to the POP-Q scale (performed on the most distally located part of the vaginal wall):**

- 1st stage — location of the distal component more than 1 cm above the level of the hymenal ring;
- 2nd stage - descent to a distance of less than 1 cm above and no more than 1 cm below the level of the hymenal ring;
- 3rd stage - descent to a distance below 1 cm from the level of the hymenal ring, but less than 2 cm from the total length of the vagina;
- 4th stage — complete eversion (eversion) of the vagina, the leading point of prolapse at a distance of  $\geq$ TVL-2, where TVL is the total length of the vagina [9].

**Types of prolapse**

- Anterior prolapse: urethrocele, cystocele, cysto-urethrocele.
- Prolapse of the middle section: uterine prolapse, prolapse of the vaginal vault after hysterectomy.
- Posterior prolapse: rectocele, enterocele.

**Treatment.** Surgical treatment, especially in severe degrees of prolapse, presents significant difficulties due to the need to eliminate not only the underlying disease, but also to restore the architectonics of the small pelvis, functional disorders of the genital organs, rectum, bladder and urethra [9,10].

The most common option for correcting apical prolapse is laparoscopic sacrocolpopexy, but it is one of the technically difficult and lengthy operations, which require highly qualified surgeons. At the same time, this type of surgical intervention solves the problem of isolated apical prolapse only, without completely eliminating cystocele and rectocele [11]. A significant limitation of the technique can be considered its not so high efficiency in lowering the anterior and posterior walls of the vagina.

A certain place in the structure of various forms of pelvic prolapse is occupied by failure of the pelvic floor muscles, accompanied by an increase in the length (elongation) and size (hypertrophy) of the cervix. Such anatomical changes can lead to characteristic changes in the perineum, up to the formation of decubital ulcers. The main methods of correction of prolapse of the pelvic organs in combination with cervical elongation, used in modern operative gynecology, are the Manchester operation (a combination of anterior colporrhaphy, amputation of the cervix, strengthening the cervical stump with cardinal ligaments and colpoperineolevatoroplasty) and vaginal extirpation of the uterus. However, vaginal extirpation of the uterus as a method of surgical treatment of genital prolapse in combination with cervical elongation has its limitations. Its use is justified in aged women who are not burdened by somatic status. The technique is technically complex, which in turn means a higher complication rate. In addition, extirpation of the uterus often does not lead to the desired result due to the high incidence of vaginal dome prolapse in this category of patients [12,13,14]. Manchester operation, developed at the end of the 19th century. A. Donald and improved by W. Fothergill, has proven itself well over the past century. During this time, a number of authors have developed and proposed numerous modifications of it. However, all attempts to improve the Manchester operation could not level its main shortcomings: the crossed cardinal ligaments do not fully support the uterus in a physiological position even when they are stretched, therefore there is no complete correction of the disturbed topography of the pelvic organs; violation of the vesicoureteral angle is not eliminated.

According to various literature sources, the recurrence rate after the Manchester operation is 9–22% [15,16].

With a central defect of the pubocervical fascia (cystocele), the standard operation is anterior colporrhaphy, with a lateral defect, reapproximation of the vagina to the pelvic walls - paravaginal reconstruction. At the same time, the frequency of relapses in techniques using own tissues reaches 30–60% [17]. Based on the experience of using synthetic meshes in abdominal surgery and the success of sling operations, in 2002 a group of French urogynecologists proposed transvaginal mesh reconstruction (TSR) for PTO  $\geq 3$  st. Thus, the efficiency of using the most popular Prolift system reaches 80.5% within 3 years and 77% within 5 years, complete anatomical correction occurs in 69% and 67%, respectively, serious complications occurred in 18% of cases, repeated operations were required in 13.3% of patients [18,19]. The use of lightweight meshes (Prolift+M) gives a positive result in 85–87% of cases, and the anatomical efficiency varies between 76 and 96%, erosion occurred in 5.6–14.8% of patients [20,21]. However, "mesh surgery" even with the use of light prostheses is accompanied by an increased risk of complications, the number of which depends on the experience of the surgeon: the development of erosions (4–19%), bladder perforations (0.5–3.5%), chronic pelvic pain and prolapse/urgency de novo [22,23].

**Conclusion.** The wide prevalence of pelvic organ prolapse among women of the middle and older age groups, as well as the lack of effective methods of conservative treatment, make the problem of surgical treatment of these diseases extremely relevant.

The above data from the literature review once again testifies to the need to search for new approaches and methods for correcting pelvic organ prolapse.

The information presented will help practitioners to assess the advantages and disadvantages of modern methods of surgical treatment of pelvic floor pathology and choose the correct surgical tactics for each specific case.

#### References:

1. Буянова С.Н., Шукина Н.А., Зубова Е.С., и др. Пропалс гениталий // Российский вестник акушера-гинеколога. — 2017. — Т.17. — №1. — С. 37–45.
2. Baggish MS, Karram MM. Atlas of pelvic anatomy and gynecologic surgery. 4th edition. Elsevier; 2015. 1408 p.
3. Gutman R. Maher C. Uterine-preserving POP surgery. *Int Urogynecol J.* 2013; 24(11):1803–1813. doi: 10.1007/s00192-013-2171-2.
4. Радзинский В.Е., Шалаев О.Н., Дурандин Ю.М., и др. Перинеология / Под ред. В.Е. Радзинского. — М.: Медицинское информационное агентство, 2006. — 336 с.
5. Краснопольский В. И., Буянова С. Н., Петрова В. Д. Комбинированное лечение больных с опущением и выпадением внутренних половых органов и недержанием мочи с применением антистрессовых технологий: Пособие для врачей. — М., 2003. — 41 с.
6. Кулаков В. И., Чернуха Е. А., Гус А. И. и др. Оценка состояния тазового дна после родов через естественные родовые пути // Акушерство и гинекология. — 2004. — С. 26—30.
7. Hendrix S. L., Clark A., Nygaard I. et al. Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity // *Am. J. Obstet. Gynecol.* — 2002. — 186 (6). — P. 1160—1166.
8. Макаров О. В. и др. Новые технологии использования сетчатых имплантатов в коррекции переднего и апикального пролапса тазовых органов у женщин // Вестник РГМУ. — 2011. — №6. — С. 49—53.

9. Najmutdinova D. K., Gadoyeva D. A.// Pelvic Organ Prolapse// International Journal on Integrated Education-2022-P.12-16
10. Гаспаров А. С., Бабичева И. А., Дубинская Е. Д. и др. Хирургическое лечение пролапса тазовых органов // Казанский медицинский журнал. — 2014. — Т. 95. — №3. — С. 341—347.
11. Загородняя Э. Д., Белокриницкая Т. Е., Вершинин О. В. и др. Эффективность системы Prosima при хирургической коррекции пролапса половых органов с недержанием мочи // Мать и Дитя в Кузбассе. — 2014. — №4 (59). — С. 47—51.
12. Costantini E., Mearini L., Bini V. et al. Laparoscopic versus abdominal sacrocolpopexy: a randomized, controlled trial. *J. Urol.* 2016;196(1): 159-65. DOI: 10.1016/j.juro.2015.12.089.
13. Гинекология. Национальное руководство / Под ред. Кулакова В.И., Манухина И.Б., Савельевой Г.М. — М.: ГЭОТАРМедиа; 2007. — 1150 с.
14. Кулаков В.И., Адамян Л.В., Мынбаев О.А., и др. Хирургическое лечение опущения и выпадения влагалища и матки / Сб. статей: Оперативная гинекология — хирургические энергии. — М.; 2000. — С. 740—760.
15. Chen X, Tong X, Jiang M, et al. A modified inexpensive transobturator vaginal tape inside-out procedure versus tension-free vaginal tape for the treatment of SUI: a prospective comparative study. *Arch Gynecol Obstet.* 20; 284(6):1461–1466. doi: 10.1007/s00404-011- 1871-4.
16. Уилис К.Р. Атлас оперативной гинекологии. — М.: Медицинская литература; 2007. — 532 с.
17. Хирш Х.А., Кезер О., Икле Ф.А. Оперативная гинекология. Атлас. Пер. с англ. / Под ред. Кулакова В.И., Федорова И.В. — М.: ГЭОТАР-Медиа; 2007. — 756 с.
18. Maher CF, Baessler K. Surgical management of anterior vaginal wall prolapse: an evidence based literature review. // *Int Urogynecol J Pelvic Floor Dysfunct.* 2006. Vol. 17. P. 195 – 201.
19. Jacquetin B, Fatton B, Rosenthal C, Clavé H, Debodinance P, Hinoul P, Gauld J, Garbin O, Berrocal J, Villet R, Salet Lizée D, Cosson M. Total transvaginal mesh (TVM) technique for treatment of pelvic organ prolapse: a 3 year prospective follow-up study. // *Int Urogynecol J.* 2010. Vol. 21. N. 12. P. 1455 – 1462.
20. Miller D, Lucente V, Babin E, Beach P, Jones P, Robinson D. Prospective clinical assessment of the transvaginal mesh technique for treatment of pelvic organ prolapse 5-year results. // *Female Pelvic Med Reconstr Surg.* 2011. Vol. 17. P. 139 – 143.
21. Milani AL, Hinoul P, Gauld J. Medium term clinical outcomes following trocar guided mesh repair of vaginal prolapse using partially absorbable mesh.// 37th IUGA Annual Meeting. 2012. Abstract 81.
22. Stanford EJ, Moore RD, Roovers JP. A prospective multi-center clinical trial evaluating Elevate Anterior and Apical in the treatment of pelvic organ prolapse: two year followup. // 37th IUGA Annual Meeting. 2012. Abstracts 42, 83.
23. Mourtialon P, Letouzey V, Eglin G, de Tayrac R, French Ugytex Study Group. Cystocele repair by vaginal route: comparison of three different surgical techniques of mesh placement. // *Int Urogynecol J.* 2012. Vol. 23. P. 699 – 706.
24. Sokol AI, Iglesia CB, Kudish BI, Gutman RE, Shveiky D, Bercik R, Sokol ER. One-year objective and functional outcomes of a randomized clinical trial of vaginal mesh for prolapse. // *Am J Obstet Gynecol.* 2012. Vol. 206. N. 1. P. 86.