

**GENITAL PROLAPSE: THE CURRENT STATE OF THE PROBLEM**

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**Abstract.** Prolapse of genital organs is widespread among gynecological diseases, early manifestation of clinical symptoms (28%-39%) and the tendency of women with prolapse of genital organs to get younger in recent years and the increase in the number of such patients of reproductive age are noted. According to recent literature and studies, the prevalence of penile prolapse is 10.1% in women under 30, 40.2% in women between 30 and 45, and up to 50% in women over 50. remains one of the urgent problems facing 1.. [C.H. Kim – 2017]. [Lucot, J.P. – 2018. [Bejenar V. F. 2013]

**Key words:** prolapse of genitalia, therapeutic approach to patients, surgical technique.

Genital prolapse, or prolapse and drooping of the internal genital organs is a polyetiological disease, the development of which is influenced by physical, genetic and psychological factors. Analysis of statistical data shows that in the Republic of Belarus, every fifth patient who consults a gynecologist presents complaints related to prolapse and drooping of the internal genital organs. As the pathological process develops, functional disorders of the bladder and rectum worsen, leading not only to physical and moral suffering, partial or complete loss of ability to work, but in some cases making the lives of these women socially difficult [1, 13]. For many years, there has been a lively discussion about the causes of. Despite the efforts of many generations of gynecologists, surgeons, anatomists and doctors of other specialties, there is still no consensus on the etiology and pathogenesis of this condition. A number of authors believe that develops due to insufficiency of the pelvic floor muscles and should be considered as a type of pelvic hernia. Insufficiency of the pelvic floor muscles is caused by a decrease in the tone of the muscular-fascial structures or their defects, which can be traumatic and non-traumatic (functional) [3, 9, 22]. Factors of traumatic insufficiency of the pelvic floor muscles:

□ Pregnancy and childbirth (injuries to the soft birth canal, rapid and rapid labor, the use of various obstetric aids during childbirth, a large fetus). About a third of all examined women indicate birth trauma as the cause of the symptoms of pelvic floor insufficiency. There is an opinion about the influence of the duration of the second stage of labor on the risk of developing pelvic floor muscle insufficiency in the future.

According to some data, any pregnancy lasting more than 20 weeks, regardless of the method of delivery, increases the risk of pelvic floor pathology [10].

□ Chronic increase in intra-abdominal pressure (constipation, heavy physical labor, prolonged static position, the presence of tumors of the abdominal cavity). Women with a more pronounced degree of prolapse 3 times more often than patients with minimal manifestations of the disease note heavy physical labor as the main etiological factor [11, 19].

□ Mechanical trauma to the muscular-fascial structures of the pelvis, not associated with pregnancy, childbirth (surgical interventions in gynecological pathologies) [21].

□ Traumatic injury to the centers and pathways of the nervous system responsible for the regulation of the muscular-fascial structures of the pelvic floor and pelvic organs [21].

Risk factors for non-traumatic pelvic floor insufficiency:

□ Connective tissue dysplasia (varicose veins, hernias of various localizations, etc.). Recently, there have been increasing reports of prolapse of the genitals in young women after vaginal childbirth, after cesarean section, and even in nulliparous women. These facts suggest that, first of all, pathological changes in the connective tissue, and only then childbirth and obstetric trauma to the pelvic floor contribute to the occurrence of pelvic organ prolapse in young women. The theory of systemic connective tissue dysplasia as the leading cause of prolapse is becoming increasingly widespread. In this case, childbirth and trauma are considered as provoking factors against the background of widespread undifferentiated forms of. Prolapse of the genitals in women of reproductive age after a single physiological birth and with a preserved hormonal background in the absence of factors contributing to an increase in intra-abdominal pressure is a frequent manifestation of generalized. The more severe the manifestations of the more pronounced the forms of distention of the genital and pelvic organs [2, 11]. □ Hypoestrogenism (menopause, castration). It has been established that insufficient concentration of sex steroids potentiates prolapse of the pelvic organs, since the perineal tissues have a high content of receptors for estrogens and progesterone. In addition, hypoestrogenism, leading to impaired blood circulation and microcirculation of the pelvic floor tissues, aggravates the development of this pathology [21].

□ Damage to the centers and pathways of the central nervous system responsible for the regulation of the muscular-fascial structures of the pelvic floor and pelvic organs (tumors of the central nervous system, osteochondrosis, etc.) [10].

□ Genetic predisposition. Prolapse of the genitals in more than 50% of cases is genetically determined. There is also an assumption about the participation of vitamin D receptor genes in the pathogenesis of the disease [21].

□ Impaired blood circulation in the pelvic organs and perineal muscles can lead to pelvic floor failure [19].

In recent years, more and more reports have appeared on the role of excess body weight as a risk factor for the development of distenzia, its recurrence, and prolapse of the vaginal dome after hysterectomy [11]. There is an inseparable interaction of the perineal muscles (especially the muscles that lift the anus and close the genital slit), providing the necessary tone to the pelvic floor and the stability of the connective tissue supporting system and some of its stretching only under tension. When the integrity of the muscular-fascial structures of the pelvic floor is violated, there is a decrease in contractility and a violation of neuroreflex conduction. Subsequently, their atrophy and inability to maintain the normal position of the internal genital organs occur. Under the influence of internal bladder and rectal pressure, a decrease in the tone of the pelvic floor muscles progresses, and the pelvic organs gradually descend. According to a number of authors, neuropathy n. pudendus, myopathy of m. levator ani and connective tissue dystrophy are the three main determinants of pelvic distension [13].

#### Classification of genital prolapse

Pelvic organ prolapse has traditionally been classified by degree, zone of anatomical defect and supposed involvement of one or another organ of the small pelvis. The most frequently used classification of prolapse of internal genital organs in women was proposed by M.S. Malinovsky: I degree - the walls of the vagina reach the entrance to the vagina, and the external os of the cervix is below the spinal spines; II degree - the cervix extends beyond the genital slit, the body of the uterus is located above it; III degree (complete prolapse of the uterus) - the entire uterus is below the genital slit. There is a division of the type of prolapse according to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) [20].

In 2008, V.V. Bakhaev proposed a working classification of genital prolapse, which divides this pathology into three main groups: by localization; by severity; by the presence of functional disorders.

According to the authors, isolated forms of genital prolapse are rare. More often there is combined damage to the urogenital and pelvic diaphragms. Therefore, with genital prolapse, there are all three types of localization of genital prolapse of varying severity. Relapses of genital prolapse, occurring after surgical treatment, are more often manifested by localized forms [8, 15, 17]. As a result of the recognition of these problems, in order to more objectively assess prolapse, the International Continence Society created a standardized system of quantitative assessment of prolapse, called POPQ (pelvic organ prolapse quantification), 1996. The POPQ system involves measuring a set of points on the anterior and posterior vaginal walls, cervix and body

of the perineum relative to a set point (the hymen). All measurements are taken with the patient straining as much as possible.

### **Symptoms and diagnosis of genital prolapse**

Symptoms of pelvic organ prolapse are extremely diverse and do not always correspond to the severity of the lesion that caused and can cause a number of functional disorders of the pelvic organs: urinary incontinence which is observed in 10-60% of women with genital prolapse; pollakiuria (frequency of urination more than 8 times a day); nocturia (frequency of urination at night more than 2 times); chronic urinary retention; interstitial cystitis; bowel dysfunction (constipation, fecal and gas incontinence are observed in 10-20% of women with genital prolapse); pelvic pain [10]. The following methods are used in patients with pelvic organ prolapse: general clinical examination, including anamnesis, examination, laboratory diagnostics; special methods: patient questionnaire, functional studies of the lower urinary tract (cough test, Valsalva maneuver, tampon test, which allow not only to establish the fact of involuntary loss of urine, but also to some extent to imagine its probable nature), rectal examination; methods of radiation diagnostics: X-ray, nuclear magnetic resonance; ultrasound examination - the criteria for the normal state of the pelvic floor are the height of the perineal tendon center of at least 10 mm, the absence of levator diastasis, the preservation of muscle bundles, the width of m. bulbospongiosus of at least 15 mm. The absence of at least one of the specified signs indicates a failure of the pelvic floor; comprehensive urodynamic study; Electromyography determines the functional state of the pelvic floor muscles [10, 13, 20].

### **Methods of surgical treatment of genital prolapse**

Surgical correction of pelvic prolapse as the only adequate method of treating this disease is no longer a subject of discussion. At present, significant experience has been accumulated in this area, namely: there are more than two hundred methods of surgical treatment of genital prolapse, including the use of new technologies [6].

The most complete and convenient is the classification of methods of surgical treatment of pelvic floor insufficiency, pelvic organ prolapse and their functional disorders, systematized according to the anatomical principle in seven groups of surgical technologies proposed by V.I. Krasnopolsky (1997) [14]:

Group 1: Plastic surgery aimed at strengthening the pelvic floor. Group 2: Operations using various modifications of strengthening and shortening the round ligaments of the uterus and fixation of the body of the uterus.

Group 3: Operations to strengthen the fixing apparatus of the uterus and change its position.

Group 4: Operations with rigid fixation of the internal genital organs (vaginal vault) to the pelvic walls.

Group 5: Operations using alloplastic materials to strengthen the ligamentous apparatus of the uterus and pelvic fascia.

Group 6: Operations to create complete or partial obliteration of the vagina.

Group 7: Radical operations performed by various surgical approaches in combination with operations from groups 4 and 5.

At the same time, the existing variety of operations for genital prolapse does not give the desired effect, especially when analyzing the long-term results of the traditional methods used. According to a number of authors, after anterior colporrhaphy, the number of relapses reaches 31%, after posterior - 35%. After transvaginal extirpation of the uterus for relapse associated with prolapse of the walls and dome of the vagina is observed in 43% of cases [18]. What is the reason for such a number of relapses? Obviously, their frequency depends not only on the technique of the operation performed. Studies conducted by a number of authors have shown that relapses of prolapse depend to a greater extent on the presence and degree of in patients undergoing surgery, signs of which are detected in most patients with prolapse and prolapse of the internal genital organs [22]. Close anatomical connections between the vaginal wall, bladder and rectum contribute to the fact that combined prolapse of the organs occurs. Therefore, it is necessary to take into account the multiplicity of fascial defects in patients with prolapse and the necessity of their restoration, which is one of the main conditions for preventing relapses. Restoration of the function of the pelvic organs in prolapse is possible only by returning them to their physiological position by strengthening the connective tissue structures of the pelvis. The rapid development of new technologies for the use of medical synthetic materials for the correction of various types of hernias in surgery has prompted operating gynecologists to introduce these materials in the presence of fascial vaginal defects and with DST. In the presence of defects in the pubocervical and rectovaginal fascia, the use of synthetic materials is optimal [1, 4, 9]. Long-term theoretical and practical studies have shown that modern mesh prostheses should have the following qualities [7]:

- sufficient elasticity, strength, transparency, ensure bacterial permeability, stimulate fibrosis and angiogenesis;
- low wicking capacity (which is ensured by monofilament weaving), biological compatibility;
- versatility and availability of application techniques.

A number of authors [6, 7, 8, 9, 12, 14, 19-22] currently use the Prolift™ total system (ETHICON Women's Health & Urology, Johnson & Johnson Company®, USA) for complete reconstruction of the pelvic floor, as well as the Prolift® anterior and Prolift® posterior systems for reconstruction of the anterior and posterior sections of the pelvic floor. These systems include mesh implants made of polypropylene material Prolene Soft® and a set of instruments designed for mesh installation. For the

treatment of stress urinary incontinence, the original operation using a free synthetic loop (TVT) has become widespread due to the availability of the technique, minimally invasiveness, high efficiency and the possibility of using it with other prolapse-correcting operations. However, since the majority of women operated on using these methods belong to low-income groups (pensioners), economic aspects are of great importance in the choice of the material used. An important disadvantage of the Prolift endoprosthesis reaches 31%, after the back - 35%. After transvaginal is the high price, which significantly limits the range of patients who can be helped. Therefore, in view of the high cost of the Prolift system, we consider it appropriate to use the surgical mesh of the Russian company Lintex-ESFIL ES3535 "white-blue" (light or universal version) for surgical correction of genital prolapse using the original technique developed by Professor N.A. Nechiporenko [4]. The concept of operations using alloprosthetics using the technology of transvaginal insertion of the mesh without tension is the formation of a new artificial pelvic fascia (neofascia) instead of the destroyed endopelvic fascia. This allows you to create a frame for the bladder, vaginal walls and rectum. We consider this type of surgery pathogenetically justified when it is necessary to create neofascia to replace the destroyed ones (pubocervical and rectovaginal). In this case, not only are existing fascial defects eliminated, but reliable fixation of the fascia to the pelvic walls is also restored, which prevents pathological protrusion of the vaginal walls with increased intra-abdominal pressure. The absence of tension on the vaginal wall when using a polypropylene mesh minimizes the risk of developing dystrophic disorders of the vaginal mucosa [4, 16]. Our practice has shown that the size of the prosthesis should exceed the size of the fascial defect by 3-4 cm, which prevents its displacement and reliably eliminates the central and lateral defects. The optimal size of the prosthesis and the presence of "sleeves" made it possible to fix it not to the edges of the fascial defect, but to the bone structures of the pelvis, or to use large tissue arrays, the preserved ligamentous apparatus of the small pelvis (obturator window, sacrospinal ligaments). The performed technique made it possible to eliminate the fascial defect regardless of its localization (for example, central or lateral defects of the pubocervical fascia) [3, 5, 13].

**Conclusion.** Thus, the problem of genital prolapse is multifactorial and polyetiological. When solving it, significant technical difficulties often arise associated not only with surgical reconstruction of the pelvic floor, but also with the problem of choosing the least traumatic and effective method of surgical intervention. The long-term, progressive nature of the disease, leading to aggravation of functional disorders, necessitates a reasonable choice (on the one hand, standardized, and on the other, individual) of the method of surgical correction for each patient. Such a comprehensive approach will improve the results of surgical treatment of patients with genital

prolapse, reduce the frequency of relapses of this disease and the risk of immediate and remote adverse results of surgical intervention.

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