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Individual Approach to Choosing Tactics for Treatment of Rectovaginal Fistulas

K. U. Sherkulov, M. K. Usmonkulov
Samarkand State Medical University, Uzbekistan, Samarkand, Ankaboy St., 5.
umumxirurgiya@mail.ru, umumxirurgiya@mail.ru

Abstract: to improve treatment outcomes in patients with rectovaginal fistulas.

The results of surgical treatment of 23 patients with rectovaginal fistulas were assessed. Two categories of surgical interventions were used. 11 patients underwent excision of fistulas with subsequent layer-by-layer suturing of the surgical wound tightly without the use of components of sphincter levatorplasty. In the remaining 12 patients, the operation was supplemented by segmental proctoplasty, plastic surgery of the vaginal wall with a mobilized mucosal-submucosal flap after performing anterior sphincter levatorplasty.

In the first group of patients, 1 relapse of the disease was registered. In the second group of patients, no relapses were noted.

the use of the technique of radical excision of the rectovaginal fistula, supplemented by anterior sphincter levatorplasty, is the most promising method for reducing the number of postoperative complications and relapses of the disease by restoring the layered structure of the rectovaginal septum.

Keywords: rectovaginal fistula, rectovaginal septum, recurrence, anterior sphincter levatorplasty.

Introduction. Recto-vaginal fistulas are one of the difficult and not fully resolved problems of proctology, pelvic surgery, gynecology and urology. Various methods of surgical treatment of rectovaginal fistulas have been proposed. Despite this, the proportion of disease recurrence and postoperative complications remains high. The main reason for this is the lack of an individual approach to determining the method of surgical treatment of rectovaginal fistulas, which encourages the search for newer surgical technologies and the development of treatment algorithms. Of all genital fistulas, the most common (49.3% of observations) are enterogenital fistulas. The proportion of rectovaginal fistulas is 59.1%. Low and medium level fistulas are the most common. Rectovaginal fistulas are a complex social problem, causing maladaptation, leading to severe moral and physical suffering for the patient, and putting her in a difficult relationship with her family and others. The pathological conditions under consideration can lead to the development of disorders associated with gas and fecal incontinence; fistulas often develop against the background of chronic anorectal pathology complicated by purulent infection. The disease, if it has a long, continuous course, is characterized by the complexity of surgical treatment and a high risk of developing postoperative relapses. Most often, rectovaginal fistulas occur in young and working-age patients. Most often, the producing factor for the occurrence of rectogenital fistulas is pathological childbirth, characterized by a protracted nature with a long anhydrous interval, the occurrence of perineal ruptures after childbirth and other

postpartum injuries. In this case, fistulas are characterized by low localization, labial structure, and cicatricial damage to the perineal tissues. In such cases, anal sphincter insufficiency often develops. A rupture of an abscess into the vagina during acute paraproctitis, complications of inflammatory bowel diseases such as Crohn's disease, diverticular disease, as well as injuries to the rectovaginal septum and operations on the pelvic organs can also cause the development of rectovaginal fistulas. Involuntary release of feces and gases, their entry into the vagina cause maceration and irritation of the skin of the perianal area and the vaginal mucosa. Additional difficulties in the current situation are introduced by persistent, sometimes unsuccessful treatment of vaginitis, supported by constant seeding of intestinal microflora. In the presence of a constant highly pathogenic bacterial infection in the vaginal area, an exacerbation of inflammatory diseases of the urinary tract often occurs. In 25% of patients, due to traumatic injuries (ruptures during childbirth, previous operations), a long-term purulent process in the rectovaginal septum, varying degrees of rectal sphincter insufficiency develop, caused by a defect in the anal sphincter along the anterior semicircle.

Can't find what you need? Try our literature selection service. Depending on the cause of the rectovaginal fistula, the disease has various topographic and anatomical features, which requires a differentiated approach in choosing treatment methods. The only method of radical treatment of rectovaginal fistulas is surgery. Despite the fact that more than 100 surgical methods are currently proposed, the recurrence rate is 10-40%. The main reasons for early relapse are wound suppuration, incorrect choice of surgical method, technical difficulties caused by the localization of the fistula, destruction, cicatricial transformation and massive damage to the perineal tissue. After numerous operations, extensive morphological changes, represented by cicatricial deformations, form in the rectovaginal septum and perineum. Modern research has shown the importance of individual choice of surgical method for each patient. However, there are no unified and adapted algorithms for choosing surgical tactics that take into account such factors as the etiology of the fistula, its syntopy, position and course relative to the edge of the anus, perineum, the relationship of the defect or fistula with the muscular apparatus of the rectal sphincter, the severity of the cicatricial periprocess, the functional state of the locking apparatus of the rectum has not been established to date.

Most authors try to create one, universal method of treating all forms of rectovaginal fistulas. In this regard, optimization of treatment tactics for rectovaginal fistulas remains a very pressing problem in modern proctology. To optimize surgical treatment of patients with rectovaginal fistulas, it is necessary to clearly define tactical approaches and methods of technical execution of the stages of the operation, which should be strictly individualized taking into account the clinical and objective manifestations of the disease. The research being conducted will reduce the number of postoperative relapses and unsatisfactory treatment outcomes to a minimum.

Purpose of the study - improving treatment results for patients with rectovaginal fistulas.

Materials and methods. An assessment was made of the immediate and long-term results of surgical treatment of 23 patients with rectovaginal fistulas of varying degrees of complexity, who were treated at the 1st clinic of SamMI, Coloproctology Department from 2016 to 2021. The postoperative monitoring period was at least 6 months. All patients were admitted to the SamMI clinic for the first time; the dominant etiopathogenetic factor was birth trauma, perineal rupture during labor of the II-III degree with subsequent infection from the lumen of the rectum; in two observations, spontaneous drainage of acute paraproctitis into the lumen of the vagina occurred. Patients of the study groups were admitted to the clinic with formed rectovaginal fistulas for radical surgical treatment. Patients were first examined by a gynecologist, underwent a vaginal examination to exclude concomitant organic pathology, and assessed the state of the vaginal microflora.

The patients underwent a standard set of objective examinations: digital examination of the rectum, vaginal and bimanual examination, which determined the length of the anal canal, the location of the internal opening, its size, height, the presence of an inflammatory infiltrate,

cicatricial deformation of the distal rectum, usually arising as a result of trauma or previous surgeries. The functional status of the internal and external sphincter components was also assessed. The diagnostic algorithm of instrumental research methods included ano- and rectoscopy, anorectal complex manometry and profilometry, fistulography, endorectal and vaginal ultrasound. When examining complex, recurrent fistulas and the consequences of severe perineal ruptures, proctography, spiral or magnetic resonance imaging were additionally performed (to assess the fistula topography and, if necessary, to exclude concomitant surgical or oncological pathology), and in the case of gross cicatricial deformations, electromyography. During the preoperative period, patients underwent a standard set of laboratory tests.

An assessment was made of the quantitative and qualitative composition of the pathogenic microflora of the vagina and rectum to correct antibacterial therapy in the postoperative period, which was especially taken into account for patients with recurrent rectovaginal fistulas. Preoperative preparation of patients consisted of sanitizing the vagina with antiseptics; if possible, sanitizing (washing) the fistula tract with antiseptic solutions was performed.

Two categories of surgical interventions were used, which seem to be the most pathogenetically justified. The distribution of patients into groups was carried out taking into account the principles of stratification randomization, including maximum similarity of qualitative features determining the postoperative prognosis. Thus, the second group of clinical observations (the main group) included exclusively patients who had suffered a stage III perineal rupture during childbirth, acute paraproctitis, as well as patients with prolapse and relaxation of the pelvic floor, that is, a cohort of patients with the worst postoperative prognosis when performing standard interventions. A mandatory component of both groups was radical excision of rectovaginal fistulas.

In the control group, nine patients underwent excision of fistulas with suturing of the internal opening in the rectum or closing it with a mucosal-submucosal flap, followed by layer-by-layer suturing of the surgical wound tightly and plastic surgery of the vaginal wall with its own mucosa without the use of sphincter levatorplasty components. In the remaining eight patients (the main group), the applied operation was modified by performing segmental proctoplasty of the zone of the internal fistula opening in the rectum with a U-shaped displaced full-layer flap of the intestinal wall, fixed with sutures along the perimeter of the intestinal wall wound, and the vaginal wall defect is “covered” with a mobilized muco-submucous flap after performing preliminary anterior sphincter-levator plasty (similar to operations for rectocele) with suturing of the anterior portions of the muscles that lift the anus and the creation of a fascial-muscular layer in the rectovaginal septum in the area of the excised fistula. The use of synthetic plastic materials (polypropylene meshes and alloplastic materials), as described in many domestic and foreign studies, was not used in these groups of patients due to the high proportion of wound suppuration and septic complications arising from the use of plastic materials in chronic purulent infections. Even in the absence of relapses in this category of patients, complications may include gross cicatricial deformations of the perineum, dysfunction of the muscular apparatus of the perineum and pelvic floor, and dyspareunia.

Results and their discussion. In the postoperative period, the most favorable conditions for wound healing and rapid recovery of patients were created, namely, regimen, diet, correction of general and local disorders, dressings.

Starting from the first day after surgery, patients underwent daily dressing changes, during which the vagina was douched with antiseptic solutions. A comparative analysis of the results of surgical treatment of patients with rectovaginal fistulas was conducted.

Among patients who underwent fistula excision with layer-by-layer suturing of the surgical wound and plastic surgery of the vaginal wall with their own mucous membrane without the use of sphincter levatorplasty components (wound healing times were up to 20 days), 1 relapse of the disease was registered, which occurred 1-1.5 months after the operation, associated with the lack

of adequate separation between the walls of the vagina and rectum, infection of the wound, and cutting of the sutures. To prevent purulent-septic complications, patients underwent antibacterial therapy, the duration of which in this group of patients ranged from 7 to 10 days. Relief of postoperative moderate pain syndrome, carried out with non-narcotic analgesics, was carried out for 3-6 days. In the group of patients who underwent excision of the rectovaginal fistula with segmental proctoplasty, anterior sphincter levatorplasty and plastic surgery of the vaginal wall with a mobilized mucosal-submucosal flap (healing time was up to 15 days), no relapses of the disease were registered. However, in one observation after the use of a combined technique, infiltrative inflammation was noted in the postoperative wound with cutting through of sutures, which did not lead to the development of a relapse, and was stopped by conservative methods within two weeks.

The duration of antibacterial therapy was 5-7 days. Pain relief was carried out for up to 6 days; at later stages, there was no continuing need for parenteral administration of analgesics. According to the test results, during the standard course of the postoperative period, no data on the presence of significant inflammatory reactions were observed in patients of both groups (leukocytosis did not exceed 9.3x109/l, the shift in the leukocyte formula to the left was minimal - band cells no more than 10%, there was no lymphopenia).

The exceptions were observations with relapses and patients with infiltrative changes in the wound in the early postoperative period, which manifested itself as moderate leukocytosis. This patient had a rise in temperature to subfebrile levels. As a result of the therapy, these manifestations were eliminated within three days. It should be noted that the patient, with subsequently identified recurrences of rectovaginal fistulas, still showed inflammatory shifts in laboratory tests (on the 5th and 7th days after surgery, the maximum leukocytosis was 12.5x109/l). In combination with the data of objective physical control, we interpret this as early "harbingers" of relapses, the probable causes of which we consider to be microabscessing of infiltrates, suppuration of the hematoma of the rectovaginal septum in the area of surgical wounds, and leaky sutures of the rectum.

In a period of 6 to 12 months, 11 patients who underwent excision of a rectovaginal fistula using a modified technique underwent control endorectal ultrasound examinations, which showed positive dynamics of changes - absence of diastasis between the levators, resolution of the inflammatory infiltrate, compliance of the thickness of the rectovaginal septum with normal values.

Thus, as a result of the study, significant advantages and prospects of the proposed method using anterior sphincter levatorplasty were identified. The proposed technique allows for layer-by-layer restoration of the structure of the rectovaginal septum, preventing the spread of infection from the lumen of the rectum to the rectovaginal septum and into the vagina, thereby being a necessary stage in the prevention of postoperative complications and relapses of the disease, as evidenced by the immediate and long-term results of the study. The reduction in the healing time of the postoperative wound, the duration of antibacterial therapy, and the reduced need for painkillers and anti-inflammatory drugs also show the promise of the proposed method.

Conclusions. The conducted studies have shown that the use of the technique of radical excision of rectovaginal fistula, supplemented by segmental proctoplasty, anterior sphincter levatorplasty and vaginal wall plastic surgery with a mobilized mucosal-submucosal flap (with its lateral movement) is the most promising method, allowing to significantly reduce the number of postoperative complications and relapses of the disease. Separation of the walls of the rectovaginal septum, creation of a fascial-muscular layer between them due to anterior sphincter levatorplasty ensures restoration of the anatomical structures of the perineum and pelvic floor, preventing the spread of the infectious process from the lumen of the rectum to the rectovaginal septum and into the vagina.

The stable positive results obtained in the second clinical group emphasize the correctness of the chosen tactics, since it was these patients who initially had the highest risk of developing complications and postoperative relapses of the disease. This method helps to reduce pain syndrome, restore the functional characteristics of the rectum and its locking apparatus, as evidenced by the immediate and long-term results we obtained. The method has a good cosmetic effect.

The practical implementation of the developed and pathogenetically substantiated modified surgical technique will reduce the length of hospital stay for patients due to early rehabilitation and a reduction in the number of postoperative complications. Reducing the recurrence of the disease allows to reduce the number of repeated hospitalizations of patients, which emphasizes the social and economic efficiency of the proposed method. Individual surgical techniques used to perform vaginal wall flap mobilization and the plastic stage of the operation require technical analysis and improvement as more material is collected, which requires further research; however, the advantages of the method are already convincing.

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