



IMPROVED RESULTS OF RECTOVAGINAL FISTULA TREATMENT

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Abstract

The main cause of rectovaginal fistulas is the lack of an individual approach to determining the method of surgical treatment of rectovaginal fistulas, which prompts the search for newer surgical techniques and the development of treatment algorithms. Of all genital fistulas, intestinal-genital fistulas are the most common (49.3% of observations). The proportion of rectovaginal fistulas is 59.1%. Low- and medium-level fistulas are the most common. Rectovaginal fistulas are a complicated social problem, cause disadaptation, lead to severe moral and physical suffering of the patient, put her in a difficult relationship with her family and others.

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

Introduction

Rectovaginal fistulas are one of the difficult and unsolved problems of coloproctology, pelvic surgery, gynecology and urology. Various methods of surgical treatment of rectovaginal fistulas have been proposed. In spite of this fact the specific weight of the disease relapses and postoperative complications remains high. The considered pathological conditions can lead to the occurrence of disorders associated with gas and fecal incontinence, often fistulas develop against the background of anorectal chronic pathology, complicated by purulent infection. The disease with a long continuous course is characterized by the complexity of surgical treatment and a high risk of postoperative recurrence. Rectovaginal fistulas occur most frequently in patients of young and working age. Most often, the producing factor of rectogenital fistulas is pathological childbirth, which is characterized by a prolonged character



with a long waterless interval, perineal tears after childbirth and other postpartum traumas. At the same time, fistulas are characterized by low localization, spongiform structure, cicatricial affection of perineal tissues. In such cases, anal sphincter insufficiency often develops. Rupture of pus into the vagina in acute paraproctitis, complications of inflammatory bowel diseases such as Crohn's disease, diverticular disease, and trauma of the rectovaginal septum and pelvic surgery can also cause development of rectovaginal-vaginal fistulas. Involuntary discharge of feces and gases and their entry into the vagina cause maceration and irritation of the perianal area and vaginal mucosa. The persistent, sometimes unsuccessful treatment of vaginitis, supported by a constant infestation of intestinal microflora, also contributes to the current situation. In the presence of a persistent highly pathogenic bacterial infection in the vaginal area, urinary tract inflammatory diseases often worsen as well. In 25% of patients, due to traumatic injuries (ruptures in childbirth, surgeries), a long-term purulent process in the rectovaginal septum, varying degrees of rectal sphincter deficiency develop due to a defect of the anal sphincter along the anterior hemisphere. Can't find what you need? Try our literature selection service. Depending on the cause of rectovaginal fistula, the disease has different topographic and anatomical features, which requires a differentiated approach in the choice of treatment methods. The only method of radical cure of rectovaginal fistulas is surgery. In spite of the fact that more than 100 surgical techniques have been proposed, the recurrence rate is 10-40%. The main causes of early recurrence are wound festering, incorrect choice of surgical method, technical difficulties due to fistula localization, destruction, cicatricial transformation and massive damage of perineal tissues. After numerous surgeries, extensive morphological changes are formed in the rectovaginal septum and perineum, represented by scar deformities. Modern studies have shown the importance of individual choice of surgical technique in each patient. However, unified and adapted algorithms of surgical tactics choice taking into account such factors as etiology of fistula, its syntropy, position and course relative to the edge of the anus, perineum, relationship of the defect or fistulous passage with the muscular apparatus of rectus abdominis, severity of scar periprocess, functional condition of the rectal locking apparatus have not been created for today. Most authors try to create a single, universal method of treatment of all forms of rectovaginal-vaginal fistulas. In this connection optimization of treatment tactics in rectovaginal fistulas remains a very actual problem of modern proctology. To optimize surgical treatment of patients with rectovaginal fistulas it is necessary to determine clearly tactical approaches and ways of technical performance of surgical stages that should be strictly individualized taking into account clinical and objective manifestations of the



disease. The ongoing studies will reduce the number of postoperative recurrences and unsatisfactory treatment outcomes to a minimum.

Purpose of the study Improvement of treatment results of patients with rectovaginal fistulas.

Materials and Methods

The immediate and long-term results of surgical treatment of 32 patients with rectovaginal fistulas of various degrees of complexity who were treated in the 1-st clinic of Samara State Medical University, Coloproctology Department, from 2018 to 2022 were assessed. Postoperative follow-up periods were at least 6 months. All patients who were initially admitted to 1 SamGMU clinic, the dominant etiopathogenetic factor was labor trauma, perineal rupture in labor of II-III stage with subsequent infection from rectal lumen, in two observations there was spontaneous drainage of acute paraproctitis into the lumen of the vagina. Patients of the study groups were admitted to the clinic with developed rectovaginal fistulas for radical surgical treatment. Patients were first examined by a gynecologist, vaginal examination to exclude concomitant organic pathology and assessment of vaginal microflora. The patients underwent a standard set of objective examinations: finger examination of the rectum, vaginal and bimanual examination, in which the length of the anal canal, localization of the internal orifice, its size, height, presence of inflammatory infiltration, scar deformities of the distal rectum, usually resulting from trauma or previous surgical interventions were determined. Functional status of internal and external sphincter components was also evaluated. Diagnostic algorithm of instrumental methods of investigation included ano- and rectoscopy, anorectal complex manometry and profilometry, fistulography, endorectal and vaginal ultrasound. When investigating complicated, recurrent fistulas and consequences of severe perineal tears, proctography, spiral or magnetic resonance imaging (to assess fistula topography and to exclude concomitant surgical or oncological pathology if necessary) were additionally performed, electromyography for severe cicatricial deformities. In the preoperative period the patients underwent a standard set of laboratory tests. The quantitative and qualitative composition of pathogenic microflora of the vagina and rectum was assessed to correct antibacterial therapy in the postoperative period, which was especially considered for patients with recurrent rectovaginal fistulas. Preoperative preparation of the patients consisted in sanitation of the vagina with antiseptics and, if possible, sanation (irrigation) of the fistulous passage with antiseptic solutions was carried out. Two categories of surgical



interventions were used, which seemed to be the most pathogenetically reasonable. Allocation of patients into groups was carried out taking into account the principles of stratification randomization, including the maximum similarity of the qualitative characteristics determining the postoperative prognosis. Thus, the second group of clinical observations (the main group) included exclusively patients who had suffered perineal tears in childbirth of stage III, acute paraproctitis, as well as patients with pelvic floor prolapse and relaxation, that is, the cohort of patients with the worst postoperative prognosis when performing standard interventions. Radical excision of rectovaginal fistulas was an obligatory component of both groups. In the control group, nine patients underwent excision of fistulas with suturing of the internal rectal opening or its closure with a muco-submucosal flap followed by layer-by-layer suturing of the operative wound in full and plasty of the vaginal wall with its own mucosa without using sphincter-oleuroplasty components. In the remaining eight patients (the main group) the applied operation was modified by segmental proctoplasty of the internal fistulous hole zone in the rectum with the U-shaped moved full-layer flap of the intestinal wall fixed with sutures along the perimeter of the intestinal wall wound, and the defect of the vaginal wall was "covered" by a mobilized muco-submucosal flap after anterior sphincter-levatoroplasty (similar to operations for rectocele) with suturing of the anterior portions of the muscles raising the anus and creation of a fascial-muscular layer in the rectovaginal septum in the area of the dissected fistula. The use of synthetic plastic materials (polypropylene mesh and alloplastic materials), as described in many domestic and foreign studies, was not used in these groups of patients due to the high specific weight of wound suppuration, septic complications arising from the use of plastic materials in chronic purulent infection. Even in the absence of recurrence in this category of patients, the complications can be rough cicatricial deformities of the perineum, dysfunction of the muscular apparatus of the perineum and pelvic floor, dyspareunia.

Results and Discussion

In the postoperative period the most favorable conditions for the wound healing and fast recovery of the patients were created, namely, regime, diet, correction of general and local disorders, dressings. Starting from the first day after surgery, the patients underwent daily dressings, during which vaginal irrigation with antiseptic solutions was performed. A comparative analysis of the results of surgical treatment of patients with rectovaginal fistulas was carried out. Among the patients who underwent excision of the fistula with layer-by-layer closure of the operative wound and plasty of the vaginal wall by its own mucosa without sphincter-oleoplasty components (wound



healing time was up to 20 days), 1 relapse of the disease occurred 1-1.5 months after surgery and was associated with inadequate separation between the vaginal and rectal walls, wound infection, suture eruption. To prevent purulent-septic complications the patients underwent antibacterial therapy, the duration of which in this group of patients was from 7 to 10 days. The postoperative moderate pain syndrome was treated with non-narcotic analgesics for 3-6 days. In the group of patients who underwent excision of the rectovaginal fistula with segmental proctoplasty, anterior sphincter-levatoroplasty and plasty of the vaginal wall with a mobilized muco-submucosal flap (healing time was up to 15 days) no recurrence of the disease was registered. However, in one observation after using the combined technique, there was infiltrative inflammation in the postoperative wound with suture eruption, which did not lead to relapse and was treated with conservative methods within two weeks. The duration of antibiotic therapy was 5-7 days. Pain syndrome was controlled up to 6 days; there was no continued need for parenteral administration of analgesics at a later date. According to test results, during a standard course of postoperative period in both groups of patients there was no evidence of significant inflammatory reactions (leukocytosis did not exceed $9.3 \times 10^9/l$, left shift of the leukocytic formula was minimal - scrofulocytes did not exceed 10%, lymphopenia was not observed). The exceptions were the observations with relapses and patients with wound infiltrative changes in the early postoperative period, which were manifested by moderate leukocytosis. This patient had subfebrile fever. These manifestations were eliminated within three days against the background of the therapy. It should be noted that the patient with recurrent rectovaginal fistulas revealed later still had inflammatory shifts in the laboratory tests (on the 5th and 7th days after surgery, the maximum leukocytosis was $12.5 \times 10^9/l$). Combined with objective physical examination data we interpret it as early "harbingers" of recurrences, the probable causes of which we consider microabscessed infiltrates, suppuration of hematoma of rectovaginal septum in the area of surgical wounds and leakage of rectal sutures. At the period from 6 to 12 months, control endorectal ultrasound examinations were performed in 11 patients who underwent excision of rectovaginal fistula with the modified technique and showed positive dynamics of changes - absence of diastasis between the levators, resolution of inflammatory infiltrate, compliance of rectovaginal septum thickness with normal indices.

Conclusions

Thus, the study identified significant advantages and prospects of the proposed method using anterior sphincter-levatoroplasty. The proposed technique makes it





possible to restore the structure of the rectovaginal septum in layers, preventing the spread of infection from the rectal lumen to the rectovaginal septum and the vagina, thus being a necessary step in the prevention of postoperative complications and relapses of the disease, as evidenced by the immediate and long-term results of the study. Reduced healing time of the postoperative wound, duration of antibacterial therapy, less need for analgesics and anti-inflammatory drugs also show the prospects of the proposed method. The studies have shown that the use of the technique of radical excision of the rectovaginal fistula supplemented with segmental proctoplasty, anterior sphincter-levatoroplasty and plasty of the vaginal wall with a mobilized muco-submucosal flap (with its lateral movement) is the most promising method, which significantly reduces the number of postoperative complications and relapses of the disease. Disconnection of the walls of the rectovaginal septum, creating between them a fascial-muscular layer by anterior sphincter-levatoroplasty provides restoration of anatomical structures of the perineum and pelvic floor, preventing the spread of the infection process from the rectovaginal lumen into the rectovaginal septum and the vagina. Stable positive results received in the second clinical group underline the correctness of the chosen tactics, since these patients initially had the highest risk of complications and postoperative relapses of the disease. This method promotes reduction of pain syndrome, restoration of functional characteristics of the rectum and its obturator, as evidenced by the immediate and long-term results we obtained. The method is distinguished by a good cosmetic effect. Practical implementation of the developed and pathogenetically grounded modified surgical technique will reduce the duration of patients' hospitalization due to early rehabilitation and reduction in the number of postoperative complications. Reduction of disease recurrence allows reducing the number of repeated hospitalizations of patients, which emphasizes the social and economic efficiency of the proposed method. Separate surgical techniques of vaginal wall flap mobilization and the plastic stage of the operation need technical analysis and improvement as the material is being recruited, which requires further research, but already now the advantages of the method are convincing.

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