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ORIGINAL ARTICLE

OPTIMIZATION OF PARARECTAL FISTULA SURGICAL TREATMENT

DOI: 10.36740/WLek202210117

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ABSTRACT

The aim: To improve the results of treatment of complex PF by the ligation of the intersphincteric fistula tract (LIFT).

Materials and methods: 27 patients with transsphincteric fistulas of the rectum of different complexity have been operated by two methods: by ligature method ("cutting seton") and by the ligation of the intersphincteric fistula tract (LIFT).

Results: No early complications were noticed in patients who had been applied the technique of fistula ligation in the postoperative period. The pain syndrome was expressed insignificantly. The rehabilitation period was less than 12 days. Having analyzed the long-term results of the observation period lasting up to 26 months, we arrived at the conclusion that the choice of surgical treatment had little effect on the recurrence rate of pararectal fistula (21.4 and 15.38%, respectively). However, one LIFT patient had gas incontinence within 1 year of surgery in contrast to 4 patients who had had a cutting ligature method having anal incontinence for 1 year and 1 patient – during the observation period.

Conclusions: Ligation of the fistula in the intersphincter tract is an effective sphincter-preserving operation, does not require additional equipment and expensive consumables, is characterized by minimal damage to the anal sphincter and a high percentage of closure of PF (84.6%). The recurrence rate does not exceed 15.38%.

KEY WORDS: pararectal fistula, LIFT operation (intersphincter ligation)

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INTRODUCTION

Pararectal fistula (PF) occupies a special place in the structure of rectum diseases with a prevalence of 8 to 23 cases per 100 thousand population. Rectal fistulas account for 15.45% of patients with colorectal pathology. The most problematic group for surgical treatment in 30% are patients with complex (extrasphincteric and high transsphincteric) PF, which are complicated by the formation of infiltrative changes, continuous course and frequent exacerbations of the inflammatory process [1, 2]. This most often causes the development of severe local changes that cause deformation of the anal canal and perineum, scarring of the muscles that compress the anus, resulting in, primarily, external sphincter insufficiency. Frequent exacerbations of the purulent process in the perineum are accompanied by the spread of infection leading to the formation of new fistulous branches with breakthroughs through skin in the form of additional external holes. Violation of the outflow of fistula from its outer hole ends with exacerbation of chronic paraproctitis, which requires urgent surgical care. The ongoing chronic inflammatory process in the perianal area creates the conditions for the appearance of pectenosis [3]. Pectenosis is a change in the smooth muscle elements of the anal canal due to inflammatory and dystrophic-degenerative changes, which is usually accompanied by the presence of anal incontinence of different degrees. Pectenosis is found in 47.9% patients with extrasphincteric fistulas, in 23.2% with transsphincteric fistulas and in 4% with horseshoe fistulas. Cicatricial changes in the anal canal complicate the course of the disease, significantly increasing the technical difficulties in performing radical surgical interventions for recurrent paraproctitis and create conditions for persistent anal incontinence in the postoperative period [3-7]. In spite of the progress made in recent years in the treatment of patients with chronic paraproctitis, the frequency of unsatisfactory treatment outcomes remains quite high. Recurrences of rectal fistulas reach 40.2%. 17-36% of patients have discomfort in the anus, and the appearance of persistent anal incontinence of varying degrees is observed in 29% of patients [2,6-8]. The main cause of recurrence of rectal fistula is its not eliminated inner hole, and its not diagnosed branches in the pararectal tissue during surgery [4,5]. The existing significant number of different methods of surgical treatment of recurrent chronic paraproctitis so far does not guarantee complete elimination of fistula and does not exclude recurrence of the disease when using radical methods of surgical treatment [5,9-11]. In each case, coloproctologists are faced with the task of choosing the optimal method of surgical treatment in order to avoid a high percentage of anal incontinence and recurrence, which is from 9 to 50% in the treatment of complex pararectal fistulas. The number of recurrences of pararectal fistulas using the ligature method ranges from 0 to 43 [4,12-15]. The technique of dissection of extrasphincteric fistula into the lumen of the rectum with the restoration of sphincter fibers has been the subject of discussion by proctologists for several decades. In this regard, most authors prefer the ligature method at

Table I. Early postoperative complications

Category of postoperative complication	Clinical group			
	1 group (n = 14)		2 group (n = 13)	
Bleeding	1	7,14%	1	7,7%
Postoperative wound suppuration	3	21,43%	-	-
Acute paraproctitis	1	7,14%	-	-
Hemorrhoidal thrombosis	1	7,14%	1	7,7%
Hematoma of the perineum	1	7,14%	-	-
Pain	12	85,7%	6	46,15%

Table II. Late postoperative complications

Category of postoperative complication	Clinical group			
	1 group (n=14)		2 group (n=13)	
Recurrence of pararectal fistula	3	21,4%	2	15,38%
Anal incontinence 1st d.	4	28,6%	1	7,14%
Anal incontinence 2st d.	1	7,14%	-	-

IV degree, or various plastic methods at I-III degrees of fistula complexity.

THE AIM

The aim was to improve the results of treatment of complex PF by the ligation of the intersphincteric fistula tract (LIFT).

MATERIALS AND METHODS

27 patients with transsphincteric fistulas of the rectum of different degrees of complexity have been operated in the surgical department. They were operated by two methods: 1 group was represented by 14 patients, operated by ligature method ("cutting seton"); the second group consisted of 13 patients who were operated by a new method, i.e., the ligation of the intersphincteric fistula tract (LIFT). The method used was proposed by A. Rojanasakul in 2007. [16] The main stages of the procedure include incision in the intersphincteric groove, identification of the intersphincteric tract, ligation of the intersphincteric tract near the internal hole and removal of the intersphincteric tract, scraping off all granulation tissue in the rest of the fistula and suturing. All operations were performed under spinal anesthesia. The average age was 46 ± 0.7 years. The duration of the disease was from 6 months up to 7 years. Anal sphincter insufficiency was not observed in any patient before the surgery. For the sake of purity of comparison, both groups were comparable in sex, age, severity of the pathological process. Regardless of the method used, both groups used a single approach to preoperative preparation and postoperative symptomatic treatment.

RESULTS

In the course of analysis of the early postoperative period complications (table I), it has been found that 3 patients of group 1 had postoperative wound suppuration, which amounted up to 21.43% of cases in contrast to the absence of suppuration in patients of group 2. This was more likely to affect the type of postoperative wound healing and development of recurrence in the future. Twelve patients in group 1 required adequate analgesia, including narcotic analgesics, and 8 of them required more than one analgesic injection in the early postoperative period. In contrast to it, only 6 patients required single drugs injection in group 2.

Thus, no early complications were noticed in patients who had been applied the technique of fistula ligation in the postoperative period lasting from 3 to 5 days. The pain syndrome was expressed insignificantly due to the low trauma of the technique. The rehabilitation period was less than 12 days, whereas the period of rehabilitation of patients who had undergone ligature surgery ranged from 21 days to 78 days, accompanied by pain, discomfort and reduced quality of life.

Having analyzed the long-term results of the observation period lasting up to 26 months, we arrived at the conclusion that the choice of surgical treatment had little effect on the recurrence rate of pararectal fistula (21.4 and 15.38%, respectively).

However, one LIFT patient had gas incontinence within 1 year of surgery. While in group 1 gas incontinence disappeared in 3 patients within 1 year after the intervention and in 1 patient grade 1 incontinence was observed within 26 months after treatment. 1 patient who had been applied the method of cutting ligature noted incontinence of gases and feces during the entire observation period.

The average duration of hospital stay in the first group was 13.1 ± 2.1 days, while in the second group the period of hospital stay averaged 8.7 ± 2.3 days, due to the minimization of surgical trauma and lower incidence of early postoperative complications. The period of full recovery in the first group averaged 33.4 ± 4.2 days, in group 2 it decreased significantly to the average of 16.2 ± 2.9 days.

DISCUSSION

Simple pararectal fistulas cause no difficulty to be diagnosed and treated. They are accompanied by a small percentage of postoperative complications, whereas complicated fistulas are a frequently discussed issue in clinical practice. Many surgical techniques have been described for the treatment of such fistulas, including Setontechnique, fibrin glue, collagen closures, fistulotomy with sphincter regeneration, and diversion of the fistula tract. However, treatment outcomes vary, and no particular procedure is believed to be "the gold standard". Notably, the goal of any treatment of this type is to destroy the fistula passage and reduce the frequency of relapses, maintaining the full functionality of the anal mass complex. The most reliable method of surgical treatment of complex fistulas is their excision or dissection into the lumen of the rectum. Sphincterotomy is an effective way to treat anal fistulas. However, if the fistula extends to most of the sphincter complex, the operation may contribute to the failure of the anal sphincter in the postoperative period. During the surgical approach to fistula dissection/excision, some authors take into account the degree of involvement of the sphincter apparatus by no more than 10-20%, while others consider it to be no more than 33%. Therefore, this operation requires appropriate selection of patients. In 2007, Rojanasakul et al. described a new surgical option for such cases with very good initial results. LIFT has been used as a technique to interrupt the fistula passage with satisfactory results since then. Currently, there are more than 6 variants of LIFT. Nevertheless, the success rate ranges from 47 to 95%. It should also be noted that excision of the fistula in the intersphincteric space reduces the risk of anal sphincter insufficiency. We are convinced that the success of the given operation depends on the correct identification of the fistula passage and the treatment of its distal part without damage, as well as on the reliable treatment of the internal opening of the fistula. Our study has registered 4 cases of anal sphincter insufficiency, using fistulotomy and 3 cases of fistula recurrence after these interventions at different periods after surgery. The LIFT technique is associated with insufficiency of the anal sphincter of the 1st stage in 1 patient, whereas 15.38% of recurrent fistulas were observed in these patients. Having analyzed the results, we determined the main causes of recurrence and failure of the anal sphincter. The first group includes errors related to the preoperative diagnostics. Incomplete contrast of the fistula contributes to the incorrect estimation of the fistula way to the fibers of the anal sphincter and the presence of undiagnosed additional purulent cavities or passages. Therefore, the use of preoperative MRI or ultrasound diagnostics may be recommended. This will help to identify purulent pararectal cavities or passages, as well as to obtain entire information about the state of the anal sphincter complex and guarantee the correct choice of surgical intervention. We have marked two main technical errors. The first mistake is an excessive excision of the tissue of the anal sphincter during the fistula removal. The second one is suppuration of wounds, which contributes to the failure of sutures and secondary wound healing. These factors lead to the formation of a rough postoperative scar, which reduces the functional capacity of the sphincter. It is necessary to continue the research of various modifications of the LIFT technique, which will help to identify shortcomings, and contribute to the improvement of surgical treatment methods of complex transsphincter rectal fistulas.

CONCLUSIONS

Ligation of the fistula in the intersphincter tract is an effective sphincter-preserving operation, which should be used in complex anatomical variants of PF, does not require additional equipment and expensive consumables, is characterized by minimal damage to the anal sphincter and a high percentage of closure of PF (84.6%). The recurrence rate does not exceed 15.38%.

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