



## Effectiveness of Fistula Ligation in the Treatment of Trans sphincteric Pararectal Fistulas

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ABSTRACT

Modern treatment of chronic paraproctitis is aimed at preserving the integrity of the anal gland in order to reduce the risk of incontinence. One of these techniques is fistula intersphincter space ligation (LIFT). The article presents data on the results of organ-preserving LIFT operation and compares its effectiveness with the traditional method of treatment - fistula excision with sphincter suturing. The study group included 36 patients each with transsphincteric pararectal fistulas. The primary recovery in the first group was 77.7%. Relapse of the disease occurred in 16.7% of cases by the type of intrasphincter pararectal fistula, in 5.6% a "complete" fistula was formed. In the second group, relapse occurred in 25% of cases and exclusively as a "complete" fistula. The phenomena of incontinence were observed only in the control group.

**Keywords:**

Fistula excision, sphincter-preserving techniques, ligation of fistula passage in the intersphincter space

**Introduction.** In the structure of surgical diseases rectal fistulas account for 0.8-1.2%. There are morphological varieties of rectal fistulas with the presence of branching or horseshoe-shaped passages, which are formed by spontaneous opening of the pus. There are many classifications of chronic paraproctitis, but they do not always reflect the variety of clinical forms and their complications. More often the classification of rectal fistulas is used, based on the relationship of the fistulous passage to the fibers of the anal sphincter. According to this classification, fistulas are divided into intrasphincteric or submucosal, transsphincteric and extrasphincteric.

**Purpose of work.** To carry out a comparative evaluation of the results of surgical treatment of pararectal fistulas by excision of the fistula with sphincter suture and ligation of the fistula in the rectum for transsphincteric pararectal fistulas.

**Research methodology.** The study was conducted in the period 2018. 2022, in which

patients with transsphincteric pararectal fistula were included. Patients were selected according to the following inclusion criteria: age between 19 and 67 years; transsphincteric pararectal fistula of cryptoglandular theory of origin; no history of surgery for chronic paraproctitis; and written consent of the patient to participate in the study. Exclusion criteria were: patients younger than 19 and older than 67 years old; presence of transfincter pararectal fistula of non-cryptoglandular etiology; history of operations for chronic paraproctitis; patients' refusal to participate in the study. Duration of follow-up varied from 1 to 12 months in both groups. There were 24 men and 18 women in the main group. The mean age was  $(41.0 \pm 12.0)$  years. In the control group there were 28 males and 14 females. The mean age was  $(45.5 \pm 12.7)$  years ( $p > 0.05$ ). All patients had an acute paraproctitis in the anamnesis, as a result a transsphincteric pararectal fistula was formed. During the preoperative period the following investigations were performed: collection of anamnesis, examination of perianal area and

perineum, finger examination of rectum, rectorhomanoscopy, probing of fistulous passage, test with brilliant green dye. The operation was performed under anaesthesia or spinal anaesthesia in the position of the patient on the operating table as in gynaecological examination. After the surgical field and rectum were treated with betadine solution, the fistulous passage was stained with 2% brilliant green solution and the latter was probed to determine the internal opening of the fistula, its extent, and possible cavities and leaks; the probe was left in the lumen of the passage. Then a skin incision up to 3 cm was made in the projection of intersphincter sulcus, the fistulous passage was marked bluntly, the dissector was put behind it, two kapron ligatures were made using the latter, then the probe was extracted, and fistulous passage ligation was performed without its penetrating stitching. Then the fistulous passage was incised acutely, its distal part was dissected from the external fistulous opening to the fibers of the external anal bridge and removed, the external sphincter defect was sutured with 3/0 saffil thread, the skin wound was sutured with separate knotty sutures. After treatment of the proximal stump of the fistulous tract with antiseptic solution, the intersphincter wound was sutured with separate nodal sutures and a dressing with levomecol ointment was applied. Twenty-nine patients were operated on using this technique. In the control group, the operation was also performed under anesthesia or spinal anesthesia. After the surgical site and rectum had been treated in a similar manner, a dye test was performed (2% brilliant green solution) and a button probe was used. An incision was made edging the external fistulous opening, then the fistulous passage was excised with a sharp cut until it passed into the rectal wall, where the passage was cut off. Further, a trough-shaped probe was passed into the fistula stump, over which a "bridge" of tissues with a portion of the sphincter was cut through in a sharp way, the wound edges were excised. After treating the wound with betadine solution and controlling hemostasis, separate knotty sutures were applied with 3/0 safil thread, starting from the proximal part of the wound. The skin wound was partially sutured with separate nodular

sutures. A dressing with levomecol ointment was applied at the end of the operation.

**Results of the study and discussion.** The average duration of hospitalisation in the main group was ( $7.6 \pm 1.3$ ) days, in the control group ( $11.7 \pm 1.3$ ) days ( $p < 0.05$ ). Pain syndrome in patients operated on using the LIFT method had an average grade of ( $1.4 \pm 0.7$ ) and was maximal during the first two days after surgery. Patients undergoing excision of the fistula with sphincter stitch had maximal pain intensity of ( $2.8 \pm 0.8$ ) points up to 5 days ( $p < 0.05$ ). Primary recovery occurred in 32 patients (76.1%) in the main group. In one case (2,4%) the postoperative period was complicated by the development of submucosal paraproctitis, for which an abscess into the intestine lumen was opened, followed by recovery. Recurrence of the disease in the main group occurred in 4 patients (9.5%). Thus "complete" fistula recurrence has arisen only in two cases (4,8%), in 5 cases recurrences developed by type of intrasphincter pararectal fistula (11,9%), liquidated in the second stage by dissection in intestine lumen without functional disturbances of rectal obturative apparatus. In the control group, all 11 patients (26.1%) relapsed exclusively by the type of "complete" fistula.

**Conclusion.** The operation of fistula ligation seems to be effective in the treatment of pararectal fistulas that are transsphincteric. The use of fistula excision operation with sphincter stitching is safe with regard to the functional state of the rectal obturator, as no cases of anal incontinence have been detected. Recurrences, if they develop, after fistula ligation in comparison with the traditional method, are mainly of the intrasphincter fistula type, which allows, without risk of incontinence, to dissect the fistula into the intestinal lumen with subsequent recovery. The operation regarding excision of the fistula with sphincter suturing is preferable for the patient, because of less pain, short hospitalisation time, absence of functional disorders of the anal bridge. Fistula ligation is accessible to a wide range of coloproctologists.

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