CHOICE OF DRAINAGE LIGATURE IN THE TREATMENT OF COMPLEX FORMS OF ACUTE PARAPROCTITIS

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Abstract: Anal abscess is the most popular case in urgent coloproctology. The problem of anal fistula formation remains open. Primary fistulotomy for anal abscess reduces the incidence of fistulas, however, this method of treatment affects the muscle fibers of the obturator apparatus of the rectum and lead to anal incontinence. The role of a loose set-on in the treatment of fistulas is widely known and well-studied, which cannot be said about the use of this method in the treatment of anal abscess.

Aim of the study. To research the effectiveness of a loose seton in a two-stage treatment with paraproctitis.

Materials and methods. This retrospective study included 60 patients with acute ischiorectal abscess. The patients were divided into 2 groups, 30 persons each. At the first stage of treatment, patients of group A underwent incision and drainage of the abscess, patients from group B, incision and drainage of the abscess was supplemented with a drainage ligature passing through the affected crypt. At the second stage, 22 patients from group A and 30 patients from group B underwent a combined LIFT operation with laser destruction of the fistulous tract. Before the second stage of treatment, patients of both groups underwent transrectal ultrasound in order to exclude the presence of leaks and cavities. The function of anal sphincter was assessed using sphincterometry and a Wexner scale questionnaire before and after the second stage of treatment.

Results. The average follow-up period for the patients after the second stage of treatment was 18.3 months. in group A and 16 months in group B. The recurrence in group A were registered in 5 out of 22 people (22.7%), in the group of patients with a loose set-on – in 3 out of 30 persons (10%). Dysfunctions of anal sphincter after the first and second stages of surgical treatment were not registered in any of the groups.

Conclusions. The use of loose set-on in two-stage treatment of paraproctitis allows to confidently control draining of abscess, form a consolidated fistulous tract without spurs and leaks, prepare the patient for the second stage of surgical treatment and reduce the recurrence rate after minimally invasive treatment of rectal fistulas without loss of anal sphincter function.

Keywords: anal abscess, loose seton, anal fistulas, LIFT, incontinence.

ВЫБОР ДРЕНИРУЮЩЕЙ ЛИГАТУРЫ В ЛЕЧЕНИИ СЛОЖНЫХ ФОРМ ОСТРОГО ПАРАПРОКТИТА

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Аннотация: Острый парапроктит является самой часто встречаемой патологией в экстренной колопроктологии. Проблема формирования свищей прямой кишки после перенесенного острого парапроктита остается нерешенной на сегодняшний день. Первично-радикальные операции при парапроктите снижают частоту развития свищей прямой кишки, однако при данном методе лечения поражаются мышечные волокна запирательного аппарата прямой кишки, что может привести к анальной инконтиненции. Роль дренирующей лигатуры (loose set-on) в лечении свищей прямой кишки широко

известна и хорошо изучена, чего нельзя сказать о применении данного метода в лечении острого парапроктита.

Цель исследования. Оценить эффективность дренирующей лигатуры в двухэтапном лечении пациентов с парапроктитом. Материалы и методы. В настоящее ретроспективное исследование включено 60 пациентов с острым ишиоректальным парапроктитом. Пациенты были разделены на 2 группы, по 30 человек в каждой. На первом этапе лечения пациентам группы А выполнялось вскрытие и дренирование гнойника, пациентам из группы Б – вскрытие и дренирование гнойника дополнялось проведением через пораженную крипту дренирующей лигатуры. На втором этапе 22 пациентам из группы А и 30 пациентам из группы Б выполнялась комбинированная операция LIFT с лазерной деструкцией свищевого хода. Перед вторым этапом лечения пациентам обеих групп выполнялось трансректальное ультразвуковое исследование (ТРУЗИ) с целью исключения наличия затеков и полостей. Функция запирательного аппарата прямой кишки оценивалась с помощью сфинктерометрии и опросника по шкале Wexner до и после второго этапа лечения.

Результаты. Средние сроки наблюдения за пациентами после второго этапа лечения составили 18,3 мес. в группе А и 16 мес. в группе Б. Рецидивы заболевания в группе А зарегистрированы у 5 из 22 человек (22,7%), а в группе пациентов с проведенной дренирующей лигатурой – у 3 из 30 человек (10%). Нарушения функции запирательного аппарата после первого и второго этапов оперативного лечения не были зарегистрированы ни в одной из групп.

Выводы. Применение дренирующей лигатуры в двухэтапном лечении парапроктита позволяет осуществить уверенный контроль над дренированием гнойника, сформировать консолидированный свищевой ход без отрогов и затёков, подготовить пациента ко второму этапу хирургического лечения и, в совокупности, снизить процент развития рецидивов после малоинвазивного лечения свищей прямой кишки без потери функции анального жома.

Ключевые слова: парапроктит, дренирующая лигатура, свищи прямой кишки, LIFT, инконтиненция.

INTRODUCTION

Acute paraproctitis (anorectal abscess) is one of the most common diseases in emergency coloproctology [1]. Anorectal abscess develops in men twice as often as in women, while people of working age from 20 to 60 years are more likely to suffer. In 90% of cases, the occurrence of paraproctitis is explained by the well-known cryptoglandular theory, the remaining 10% are formed as a result of injuries, inflammatory bowel diseases, malignant neoplasms of the rectum, and other causes [2–6].

Operative opening and drainage of a purulent focus is the only adequate method for treating anorectal abscess [7]. The main objectives of treatment are prevention of disease recurrence and wound healing without the formation of a fistulous tract [8–11]. The success of the operation in acute paraproctitis largely depends on the possibility of violation of the anatomical connection between the cavity of the abscess and the affected anal crypt. Involvement in the inflammatory process of the muscle fibers of the obturator apparatus of the rectum and the possibility of iatrogenic damage to the fibers of the anal sphincter with a wide opening of the rectal abscess do not allow to fully apply the principle of purulent surgery "where there is pus, there is an incision."

The required reasonable caution in the radical treatment of acute paraproctitis leads to the development of a recurrence of the disease in approximately 44% of patients, which requires repeated surgical interventions [12, 13]. Thus, the formation of fistulas of the rectum after suffering acute paraproctitis in the works of different authors is observed in 26–87% of cases [14–22].

According to the literature data accumulated to date, opening and drainage of an abscess in combination with primary fistulotomy significantly reduces the risk of fistula formation. The main conditions for conducting primary fistulotomy, according to clinical guidelines, are a hole in the affected crypt found without additional samples, as well as the confidence that the crossed portion of the sphincter will be insignificant for the adequate functioning of the obturator apparatus of the rectum (less than 1/3 of the thickness of the sphincter). In other cases, the treatment of an abscess, the purulent course of which covers a large portion of the sphincter, should be limited to simple opening and drainage, or passing a draining ligature through the affected crypt [7, 22, 23]. One of the main criteria for assessing the safety of dissecting a portion of the muscle sphincter, and, accordingly, choosing a treatment method in the direction of primary radical surgery, is the experience of the surgeon, which, unfortunately, largely determines the subjective nature of solving these problems.

Given the above, we can conclude that there are still no mechanisms and algorithms that allow you to clearly determine the use of one or another surgical technique for the treatment of acute paraproctitis. The purpose of the study: to evaluate the effectiveness of the draining ligature in the two-stage treatment of patients with paraproctitis.

MATERIALS AND METHODS

The retrospective study included 60 patients with acute ischiorectal paraproctitis. All patients were operated on an emergency basis at the multidisciplinary clinic of the Samara State Medical University, Department of Proctology, from March 2022 to April 2023.

An important criterion for inclusion in the study was a high (more than 1/3 serving) transsphincteric location of the purulent passage, which was confirmed during intraoperative revision. All patients were divided into 2 groups of 30 people each and operated on an emergency basis under intravenous anesthesia in the Lloyd-Davies position. Patients from group A underwent opening and drainage of the abscess. In patients from group B, the purulent cavity was opened and drained, then the affected crypt was determined using a dye and a bellied probe, through which a draining ligature (“loose seton”) in the form of a thin and narrow sterile silicone tube was inserted into the wound. After the operation, patients underwent daily dressings with antiseptic solutions and liniments. After healing of the perineal wound, patients of group B were hospitalized for the second stage of treatment, since the installation of a draining ligature inevitably led to the development of a fistula of the rectum in everyone in the study group. In 22 patients from group A, after the opening of acute paraproctitis, an anorectal fistula also formed, which required a planned operation. The time intervals between the two stages of treatment averaged 4.5 months in group A and 4.3 months in group B. Before elective surgery, patients in both groups underwent TRUS to exclude the presence of streaks and cavities, which are a criterion for exclusion from the study, as well as measuring the portion sphincter through which the fistulous passage passed. In addition, a subjective and objective assessment of the function of the obturator apparatus of the rectum, respectively, was performed using a questionnaire on the Wexner scale and sphincteromanometry using a Gastroscan SF-01 sphincterometer. In all patients, the sphincter pressure values at rest and during volitional contractile tension were within the reference norm values.

At the second stage, 22 patients from group A and 30 patients from group B were operated on using a combined LIFT technique and laser destruction of the fistulous tract. During the operation, a radial laser light guide fixed to the silicone conductor was passed through the external opening of the fistulous tract for the entire length of the latter. After activation of the laser radiation, the light guide moved back and forth at a speed of 1 mm/sec in the direction from the inner opening of the fistulous tract to the outer one. Wavelength - 1470 nm, radiation power - 13 W. Next, the standard LIFT operation was performed. One month after surgery, the function of the obturator apparatus of the rectum was also assessed in patients using the methods described above.

RESULTS

One patient from group A and three patients from group B after the removal of the tampon for 1 day developed bleeding from the postoperative wound, which was stopped by tamponing with a collagen sponge in the dressing room. In 4 patients from group A, after opening the abscess, a relapse of acute paraproctitis developed; These patients underwent repeated opening and drainage of the abscess.

After completing the second stage of minimally invasive treatment, the endpoints of the study were determined. So, recovery was recorded when the external and internal fistulous openings were completely closed. Recanalization of the fistula after a previously recorded complete healing of the fistula was considered a recurrence.

Retention dysfunction after the second stage of treatment was not registered in any of the patients.

DISCUSSION

To date, there is no consensus regarding the factors and measures aimed at reducing the risk of recurrence of acute paraproctitis and further formation of a fistula of the rectum. It is obvious that primary radical operations significantly reduce the percentage of disease relapses and its transition to a chronic form, however, it is not always possible to perform them without crossing a functionally significant portion of the sphincter. In such cases, the surgeon has to face the problem of choosing an adequate volume of treatment: to perform a simple opening of the abscess with the risk of recurrence of the process and the formation of a complex fistula, or to perform a draining ligature, knowingly dooming the patient to the development of a fistula, but at the same time keep the obturator apparatus intact and prepare the patient for the second stage of treatment of the chronic form of paraproctitis [24–26].

The use of setons in the treatment of acute paraproctitis promotes the outflow of abscess discharged from the cavity and prevents the development of streaks and relapses of the purulent process. In addition, tension-free ligatures can be used as fibrosis stimulators at the preparatory stage before minimally invasive treatment of rectal fistulas using the LIFT, Filac, Fistula-plug techniques. In some cases, the drainage ligature improves the results of the above minimally invasive operations, which was confirmed in our work. The ligature installed at the first stage of treatment served as a marker and guide in the search for a fistulous tract during the minimally invasive stage of treatment, which reduced the operation time.

CONCLUSIONS

The results obtained in this work, without pretending to be categorical, show that the use of a draining ligature in the two-stage treatment of paraproctitis allows you to exercise confident control over the drainage of the abscess, form a consolidated fistulous tract without spurs and streaks, prepare the patient for the second stage of surgical treatment and, in the aggregate, reduce

the percentage development of relapses after minimally invasive treatment of rectal fistulas without loss of function of the anal sphincter. The results of the second stage of treatment of the patients included in this study are optimistic in terms of further prospects for using the combined LIFT technique and laser destruction of the fistulous tract.

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