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# ACUTE THROMBOSIS OF HEMORRHOIDS: CONSERVATIVE VERSUS SURGICAL TREATMENT

Purpose of the study: to conduct a comparative analysis of the effectiveness of conservative and surgical treatment of acute thrombosis of hemorrhoids. Material and methods: a single-center prospective analysis of the treatment results of 203 patients with acute hemorrhoidal thrombosis was performed: 125 (61.6%) patients who received conservative treatment and 78 (38.4%) operated patients. The conservative treatment program contained recommendations on nutrition, formation of a bowel movement regime, use of thermal baths, and taking systemic and topical medications. Patients of the second group underwent surgical intervention in the amount of thrombectomy or excision of a thrombosed hemorrhoid node under local infiltration anesthesia. Results of the study: patients who received conservative therapy and patients who underwent surgery were comparable in gender, age, and stage of acute hemorrhoidal thrombosis. Statistically significant differences were found between the patients of the two groups in pain assessment on the 1st and 7th days of treatment (p=0.043 and p=0.037, respectively) and the duration of temporary disability (p=0.032). Conclusion: surgical intervention in hemorrhoids complicated by acute thrombosis of hemorrhoids is a method of choice with many advantages. The key ones are to reduce pain on the 1st day after treatment to 3 points on the visual-analog scale (VAS), on the 7th day – to 1 point according to VAS. Compared with the group of patients receiving conservative therapy, after surgical treatment of acute hemorrhoidal thrombosis, a lower incidence of disease recurrence was noted. During the study period, a recurrent course was observed in 1 (2.0%) patient after surgery versus 5 (10.2%) cases in the conservative treatment group. Surgical treatment provides faster labor rehabilitation and reduces the period of temporary disability to 6.3 ± 0.3 days.

**Keywords:** acute hemorrhoidal thrombosis, surgical treatment of acute hemorrhoidal thrombosis, conservative treatment of acute hemorrhoidal thrombosis

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**Introduction.** Acute thrombosis of hemorrhoids (ATH) is one of the most painful pathologies of "minor" proctology. The main factor contributing to the development of ATH is venous congestion. Microtraumas of the endothelium of venous vessels contribute to the activation of hemostasis and thrombus formation, which leads to tissue edema and necrosis [3,8]. The choice of the optimal treatment method is based on the analysis of the patient's complaints, medical history and the results of the clinical examination [4, 10].

There are two main treatment methods: conservative and surgical. Conservative treatment is recommended for ATH without pronounced symptoms of the disease, the patient's refusal of surgery, as well as in patients with severe concomitant diseases. At the same time, a number of authors claim that conservative treatment is the optimal choice for most patients with ATH [12, 16]. In turn, surgical treatment is recommended in cases of pronounced symptoms of the disease, with ATH with necrosis and with the ineffectiveness of conservative treatment methods. Surgical treatment, in comparison with the conservative method, ensures the fastest recovery and reduces the risk of relapse of the disease. In this regard, in patients with frequent recurrences of ATGU, surgical intervention can be considered as a method of preventing thrombosis [2, 6]. Most researchers emphasize the importance of an individual approach to treatment. The choice between conservative and surgical treatment is based on the severity and course of the disease, taking into account the patient's preferences [15]. A combined tactic is also possible: the use of conservative treatment to relieve the symptoms of ATH in preparation for subsequent surgical intervention [17].

The choice of optimal treatment tactics for patients with ATH is a subject of debate, and studies assessing the advantages and disadvantages of conservative and surgical treatment are still relevant.

**The aim of the study:** comparative analysis of the effectiveness of conservative and surgical treatment of acute thrombosis of hemorrhoids.

**Materials and methods:** a retrospective single-centre cohort study was conducted, which included 203 patients treated for ATH at the regional proctology center of the Surgut regional clinical hospital in the period 2020–2024. 125 (61.5%) patients received conservative treatment,

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78 (38.5%) patients underwent surgery. The average age of patients was 41.4 ± 11.9 years. Examination and treatment of patients was carried out in accordance with the clinical recommendations of the Association of Proctologists of Russia [8].

Inclusion criteria: patients over 18 years of age; acute thrombosis of hemorrhoids. Exclusion criteria: patients with concomitant proctological pathology: anal fissure, anal fistula; pregnancy and breastfeeding; individual intolerance to the components of the drugs used; patients with concomitant diseases: liver cirrhosis or after pelvic radiotherapy. This study was approved by the Ethics Committee.

For an objective assessment of the treatment results, a comparative analysis of groups of patients who received conservative and surgical treatment was conducted based on the main anthropometric and clinical features. For a comparative description by age, the World Health Organization (WHO) classification was used [13]. Clinical manifestations were assessed according to the classification of the Association of Proctologists of Russia. By localization: external thrombosis and internal thrombosis. By the degree of spread of the inflammatory process: I degree - thrombosis of external or internal hemorrhoids without an inflammatory process. II degree - thrombosis with inflammation of the hemorrhoids. III degree - thrombosis of hemorrhoids, aggravated by inflammation of the subcutaneous tissue, edema of the perianal area and/or necrosis of the mucosa [8].

The intensity of pain syndrome was assessed at the time of initial medical treatment, 1, 7 and 14 days after the start of treatment. In the comparison groups, the structure, frequency of complications and relapses of the disease were analyzed. Relapse was considered to be the appearance of symptoms (pain and bleeding) or new thrombosis within 3 months after completion of treatment. Also, a comparative analysis of the duration of disability was carried out.

Indications for conservative therapy were refusal of surgical intervention and stage III of ATH. The conservative therapy program included recommendations on nutrition, formation of a defecation regimen, use of heat baths, systemic and topical drugs, the action of which is aimed at improving regional blood flow and reducing inflammation. All patients received conservative treatment with drugs registered and approved for use in the Russian Federation. Therapy was carried out within the framework of indications and in accordance with the approved instructions for medical use. The choice of topical drug depended on the clinical manifestations of ATH: bleeding, pain syndrome, itching, etc.

Indications for surgical intervention were the patient's consent to surgical intervention and the absence of severe concomitant somatic and individual proctological diseases.

Surgical interventions were performed under local infiltration anesthesia in the lithotomy position. Two types of surgical interventions were performed: thrombectomy in 53 (67.9%) and excision of the thrombosed hemorrhoidal node in 25 (32.1%) patients.

The surgical intervention began with the treatment of the surgical field with an antiseptic solution. After local infiltration anesthesia, anoscopy, revision of the anal canal, perianal area and lower third of the rectum were performed. For thrombectomy, an incision no longer than 1.0 cm was made over the thrombosed hemorrhoidal node to evacuate the thrombus. When performing excision of a thrombosed hemorrhoidal node, two converging semi-oval incisions were made, followed by removal of the node. No sutures were applied to the wound. After achieving hemostasis by electrocoagulation, a sling-like bandage with a chlorhexidine solution was applied.

During the perioperative period, patients received painkillers and anti-inflammatory drugs, venotonic drugs, heat baths, topical drugs and drugs that affect effective defecation.

Statistical analysis was performed using the StatTech v. 4.7.0 program (developer – StatTech LLC, Russia). Quantitative indicators were assessed for compliance with the normal distribution using the Kolmogorov-Smirnov criterion. In the absence of normal distribution, quantitative data were described using the median (Me) and the lower and upper quartiles (Q1 – Q3). Categorical data were described using absolute values and percentages. Comparison of two groups by a quantitative indicator whose distribution differed from normal was performed using the Mann-Whitney U-test. Comparison of percentages in the analysis of four-field contingency tables was performed using the Pearson chi-square test (for expected event values greater than 10), and the Fisher exact test (for expected event values less than 10). Comparison of percentages in the analysis of multi-field contingency tables was performed using the Pearson chi-square test.

**Results and discussion.** In the analyzed groups there were 106 (52.2%) men and 97 (47.8%) women. There were 77 (37.9%) young people, 83 (40.9%) middle-aged people and 43 (21.2%) elderly patients. Comparative assessment in the analyzed groups was performed using Pearson's chi-square. The number of young people did not differ statistically (ptotal = 0.393, pmale = 0.451, pfemale = 0.334). Similar values were obtained among patients of middle (ptotal = 0.595, pmale = 0.621, pfemale = 0.569) and elderly age (ptotal = 0.231, pmale = 0.163, pfemale = 0.299) (Table 1).

When assessing the gender and age composition of patients in the conservative therapy and surgical treatment groups, we did not find statistically significant differences; therefore, conducting a comparative analysis of their effectiveness is not appropriate.

In addition, a comparative evaluation was performed of the proportion of males and females and the stage of OTH in the analyzed groups using Pearson's chi-square test and Fisher's exact test. The number of males and females in the conservative and surgical treatment groups with Stage I OTH did not differ statistically (ptotal = 0.176, pmale = 0.118, pfemale =

**Table 1**

**Distribution of patients by gender and age**

| Age | Conservative therapy (n = 125) | | Surgical treatment (n = 78) | | P-value* |
|---|---|---|---|---|---|
| | Men abs. (%) | Women abs. (%) | Men abs. (%) | Women abs. (%) | |
| Young | 26 (20.8) | 21 (16.8) | 16 (20.5) | 14 (17.9) | $p_{tot} = 0.393$<br>$p_{men} = 0.451$<br>$p_{wom} = 0.334$ |
| Middle-aged | 25 (20) | 24 (19.2) | 18 (23) | 16 (20.5) | $p_{tot} = 0.595$<br>$p_{men} = 0.621$<br>$p_{wom} = 0.569$ |
| Elderly | 15 (12) | 14 (11.2) | 6 (7.9) | 8 (10.2) | $p_{tot} = 0.231$<br>$p_{men} = 0.163$<br>$p_{wom} = 0.299$ |

0.234). Similar values were obtained for patients with Stage II (p_total = 0.495, p_male = 0.476, p_female = 0.513) and Stage III (ptotal = 0.90, pmale = 0.859, pfemale = 0.941) (Table 2).

When assessing the stage of acute thrombosis of hemorrhoidal nodes, no statistically significant differences were found between patients in the conservative therapy and surgical treatment groups.

Pain syndrome is one of the leading symptoms of OTH; therefore, evaluating the intensity of pain at various stages of treatment is an important criterion for assessing the effectiveness of conservative therapy or surgical intervention.

When assessing the severity of pain syndrome before treatment in patients receiving conservative therapy and those undergoing surgery, no statistically significant differences were found (p = 0.839). Significant differences were observed on the 1st and 7th days of treatment (p = 0.043 and p = 0.037, respectively). It is worth noting that the intensity of pain was significantly lower after surgical intervention compared to conservative therapy. However, by the 14th day of treatment, the pain intensity approached zero and was similar in both groups (p = 0.856) (Table 3).

Postoperative bleeding was observed in 1 patient (1.3%). No other complications were noted during the postoperative period.

The time to return to normal activity averaged 6.3 ± 0.3 days in the surgical group and 11.6 ± 1.8 days in the conservative therapy group (p = 0.032).

Disease recurrence within three months after treatment occurred in 6 patients (12.2%): 5 patients (10.2%) after conservative therapy and 1 patient (2.0%) after surgery (p = 0.267).

According to studies conducted within the Russian Federation, the prevalence of OTH accounts for 10-20% of all hemorrhoid cases [8]. Data from various sources indicate that the incidence of OTH among the adult population in Russia ranges from 4% to 25%. Men are affected by OTH 1.5-2 times more often than women [7,8]. The average age of patients ranges from 30 to 50 years, with the highest number of cases observed in the age group of 40-49 years.

In Europe, the incidence of OTH varies from 5% to 15% [4,5]. Studies confirm that men are more susceptible to this condition, with a male-to-female ratio of approximately 2:1.

In the United States, OTH occurs in about 4-5% of adults, with men accounting for about 60% of all cases. The average age of patients ranges from 45 to 55 years [2].

In Asia, particularly China, the prevalence is estimated at 8-12%. Similar to other regions, men are more frequently affected than women, with a male-to-female ratio of approximately 1.5:1 [10].

The first step in conservative treatment is alleviating pain syndrome. For this purpose, non-steroidal anti-inflammatory drugs (NSAIDs) are used to reduce inflammation and pain [4,8]. Local anesthetics such as creams or ointments containing lidocaine are applied to the anal area to decrease discomfort [15]. The second line of treatment focuses on relieving constipation, which can worsen the condition and promote further thrombosis. Increasing fiber intake is recommended; including fruits, vegetables, and whole grains helps normalize bowel movements [16]. Sitting baths with warm water can help reduce discomfort and swelling; such procedures are advised for 15-20 minutes several times a day, especially after defecation [11]. Additionally, venotonic drugs that strengthen venous walls and improve venous outflow are prescribed. Treatment of hemorrhoidal thrombosis involves a comprehensive approach aimed at symptom relief and improving patient quality of life.

Surgical intervention is recommended for thrombosed hemorrhoids, especially when complications such as bleeding or severe pain occur. Currently, there is no conclusive evidence indicating significant risks associated with surgical treatment for OTH.

Our study demonstrates that surgical intervention for OTH provides rapid reduction in pain intensity, shortens disability duration, decreases recurrence risk, and increases patient satisfaction. Mild postoperative pain and absence of serious complications facilitate quick recovery to normal activities. Therefore, surgical treatment is an effective alternative to conservative therapy. Careful patient selection based on clinical severity can lead to optimal individualized treatment plans. Some patients opted for conservative management due to fear of postoperative pain and complications.

The results suggest that conservative treatment prolongs disease duration and increases recurrence likelihood in patients with OTH. Most patients prefer starting with conservative therapy due to fear of surgery; however, those who underwent surgery experienced fewer postoperative complications.

Our study has limitations: it was retrospective with a limited number of patients and data were obtained from a single center, which may introduce selection bias. Additionally, three coloproctologists participated in treatment decisions; their

**Table 2**

**Distribution of patients by degree of thrombosis**

| Возраст | Conservative therapy (n = 125) | | Surgical treatment (n = 78) | | P-value* |
|---|---|---|---|---|---|
| | Men abs. (%) | Women abs. (%) | Men abs. (%) | Women abs. (%) | |
| I Degree | 10 (8) | 8 (6.4) | 5 (6.4) | 4 (5.1) | $p_{tot} = 0.176$<br>$p_{men} = 0.118$<br>$p_{wom} = 0.234$ |
| II Degree | 55 (43.2) | 50 (40) | 34 (43.6) | 34 (43.6) | $p_{общ} = 0.495$<br>$p_{муж} = 0.476$<br>$p_{жен} = 0.513$ |
| III Degree | 2 (1.6) | 1 (0.8) | 1 (1.3) | 0 (0) | $p_{общ} = 0.90$<br>$p_{муж} = 0.859$<br>$p_{жен} = 0.941$ |

**Table 3**

**Assessment of Pain Intensity at Different Stages of Treatment**

| VAS Score | Conservative treatment n=125 | Surgical treatment n=78 | P-value |
|---|---|---|---|
| Before treatment | 7 (6–8) | 7 (6–8) | 0. 839 |
| Day 1 after treatment | 7 (5–8) | 3 (2–5) | 0.043 |
| Day 7 after treatment | 3 (2–4) | 1 (0–2) | 0.037 |
| Day 14 after treatment | 1 (0–1) | 0 (0–0) | 0. 856 |

individual approaches could have influenced outcomes. Further randomized studies are needed.

**Conclusions.** Surgical treatment for hemorrhoidal disease complicated by OTH is an effective method offering several advantages: a significant reduction in pain severity from an average VAS score of around 3 points on day one post-treatment to about 1 point by day seven; a decrease in disease recurrence from approximately 10.2% to 2%; and shortening disability duration to about 6.3 ± 0.3 days.

*The authors declare no conflict of interest in the submitted article.*

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