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IMPACT-FACTOR SJIF: 6.025
ISSN: 2181-9300

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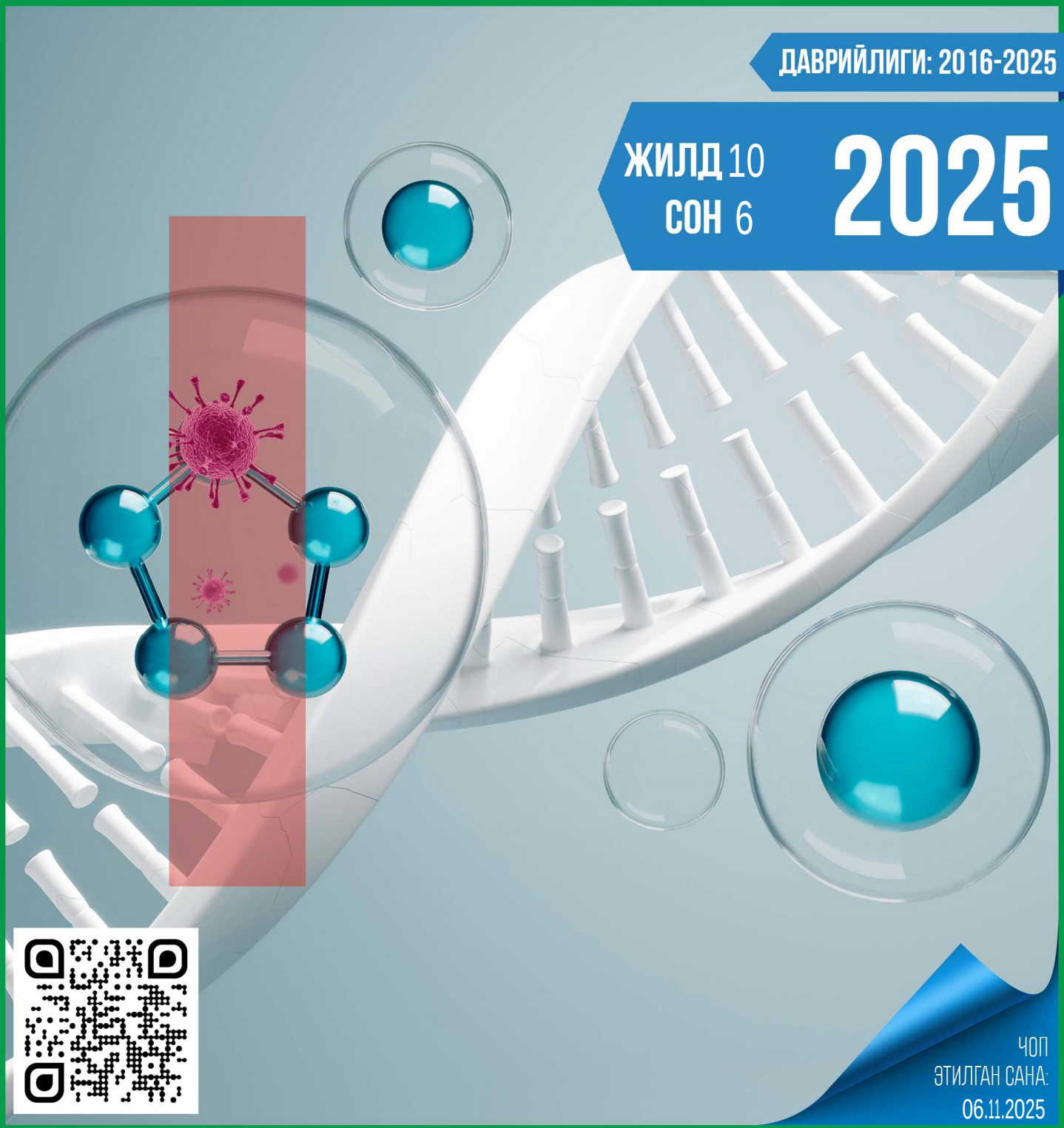
JOURNAL OF BIOMEDICINE AND PRACTICE



ДАВРИЙЛИГИ: 2016-2025

ЖИЛД 10
СОН 6
2025

ЧОП ЭТИЛГАН САНА:
06.11.2025

Тадқиқот ва ишланмалар орқали бутун дунё бўйлаб илмий амалиётларни хабардор қилиш

ISSN 2181-9300

DOI Journal 10.26739/2181-9300

БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ

10 ЖИЛД, 6 СОН

ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ

ТОМ 10, НОМЕР 6

JOURNAL OF BIOMEDICINE AND PRACTICE

VOLUME 10, ISSUE 6

ТОШКЕНТ-2025

БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ

№6 (2025) DOI http://dx.doi.org/10.26739/2181-9300-2025-6

Саҳифаловчи: Хуршид Мирзахмедов

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№6 (2025) DOI http://dx.doi.org/10.26739/2181-9300-2025-6

Верстка: Хуршид Мирзахмедов

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Page Maker: Khurshid Mirzakhmedov

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SELECTION OF SURGICAL STRATEGY FOR COMPLICATIONS OF ULCERATIVE COLITIS

For citation: Khursanov Yoqubjon Erkin Ugli, Jabbarov Sherzod Rakhimberdiyevich. Selection of surgical strategy for complications of ulcerative colitis // Journal of Biomedicine and Practice. 2025, vol. 10, issue 6.

http://dx.doi.org/10.5281/zenodo.18077599

ABSTRACT

This article presents an expanded analysis of surgical strategies for managing complicated forms of ulcerative colitis (UC). Modern approaches to assessing resistance to conservative therapy, diagnostic criteria for steroid resistance, and morphological features of inflammation and their correlation with clinical manifestations are thoroughly described. A comparative evaluation of major surgical interventions—including subtotal colectomy, ileorectal anastomosis (IRA), ileal pouch–anal anastomosis (IPAA), as well as minimally invasive techniques such as laparoscopy and HALS—is provided. Special attention is given to postoperative management, correction of enteral insufficiency, prevention of septic complications, and methods for improving long-term outcomes. The necessity of early identification of surgical indications and an individualized approach to the choice of operative tactics is substantiated to reduce mortality and improve the quality of life in patients with severe UC.
Keywords: ulcerative colitis, surgery, laparoscopy

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ВЫБОР ХИРУРГИЧЕСКОЙ ТАКТИКИ ПРИ ОСЛОЖНЕНИЯХ НЕСПЕЦИФИЧЕСКОГО ЯЗВЕННОГО КОЛИТА

АННОТАЦИЯ

В статье представлен расширенный анализ хирургической тактики при осложнённых формах неспецифического язвенного колита (НЯК). Описаны современные подходы к оценке резистентности к консервативной терапии, диагностические критерии стероидорезистентности, морфологические особенности воспаления и их связь с клиническими формами заболевания. Проведён сравнительный анализ основных видов хирургических вмешательств — субтотальной колэктомии, илеоректального анастомоза (IRA), илеоанального резервуара (IPAA), а также малоинвазивных технологий, включая

лапароскопию и HALS. Особое внимание уделено вопросам послеоперационного ведения пациентов, коррекции энтеральной недостаточности, профилактике септических осложнений и методам улучшения отдалённых результатов лечения. Обоснована необходимость раннего определения показаний к операции и индивидуального выбора хирургической тактики для снижения летальности и повышения качества жизни пациентов с тяжёлыми формами НЯК.
Ключевые слова: неспецифический язвенный колит, хирургия, лапароскопия

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Самарқанд вилояти Соғлиқни сақлаш бошқармаси

НОСПЕЦИФИК ЯРАЛИ КОЛИТНИНГ АСОРАТЛАРИДА ЖАРРОҲЛИК ТАКТИКАСИ ТАНЛОВИ

АННОТАТЦИЯ

Мақолада носпецифик ярали колитнинг (НЯк) асоратланган шаклларида жарроҳлик тактикаси бўйича кенгайтирилган таҳлил келтирилган. Консерватив даволашга резистентликни баҳолашнинг замонавий ёндашувлари, стероидга чидамлиликнинг диагностик мезонлари, яллиғланишнинг морфологик хусусиятлари ва уларнинг клиник кўринишлар билан ўзаро боғлиқлиги батафсил ёритилган. Асосий жарроҳлик аралашувлари — субтотал колэктомия, илеоректал анастомоз (IRA), илеоанал резервуар (IPAA), шунингдек лапароскопия ва HALS каби кам инвазив технологиялар таққослаб таҳлил қилинган.Операциядан кейинги даврни бошқариш, энтераль етишмовчиликни коррекция қилиш, септик асоратларнинг олдини олиш ҳамда узоқ муддатли натижаларни яхшилашга қаратилган клиник ёндашувларга алоҳида эътибор қаратилган.НЯкнинг оғир шаклларида ўлим кўрсаткичини камайтириш ва беморларнинг ҳаёт сифатини ошириш мақсадида операцияга кўрсатмаларни эрта аниқлаш ҳамда жарроҳлик тактикаси танловини индивидуаллаштириш зарурати илмий асосланган.
Калит сўзлар: носпесифик яроли колит, жарроҳлик, лапароскопия

INTRODUCTION. Nonspecific ulcerative colitis (NUC) refers to a group of chronic inflammatory bowel diseases (CHD) characterized by diffuse colon involvement, pronounced immune dysregulation, and a tendency for recurrent course. Despite the achievements of modern pharmacotherapy - the use of GCS, immunomodulators, and biological drugs - up to 10-50% of patients require surgical treatment throughout their lives. Simultaneously, the number of patients with complicated forms - bleeding, toxic dilatation, perforations, and metabolic disorders - is increasing, requiring immediate surgical intervention. Despite the development of minimally invasive technologies, the problems of choosing the time of surgery, its volume, and the method of reconstruction of intestinal continuity in NYC remain debatable. The lack of universal resistance criteria for therapy and unified surgical management algorithms creates prerequisites for late intervention, which increases mortality to 8-60%. In this regard, the study of surgical treatment tactics for complicated forms of NCA is a pressing scientific and practical task. Non-specific ulcerative colitis (NUC) refers to chronic inflammatory diseases of the colon with an autoimmune mechanism of development and a wave-like, recurrent course. In recent decades, there has been a significant increase in morbidity worldwide, which is explained by changes in lifestyle, environmental factors, urbanization, stress, and intestinal microbiome modification. International epidemiological data demonstrate a steady trend towards an increase in the number of patients with NAFLD: the incidence increases by an average of 40-60% every ten years, especially in industrially developed countries.

At the same time, the clinical course of the disease remains extremely unpredictable: about a third of patients experience severe forms requiring intensive drug therapy and careful monitoring. More than half of the patients require surgical intervention throughout the entire period of the disease, which is associated with the development of life-threatening complications or persistent resistance to

drug therapy. A particularly alarming fact is the high mortality rate in late surgery - in various sources, it reaches 50-60%.

The clinical forms of NSAIDs differ in the degree of inflammation activity and the severity of systemic disorders. The mild form is characterized by moderate symptoms and rare relapses. Moderate is accompanied by a decrease in albumin levels, progressive anemia, pronounced diarrhea, and electrolyte imbalance. The severe form is often complicated by toxic megacolon, massive intestinal bleeding, water-electrolyte imbalance, which requires immediate hospitalization and often surgical treatment. The progression of the disease is due to complex immunopathological processes. The leading role is played by the activation of pro-inflammatory cytokines (TNF-α, IL-1β, IL-6), disruption of the barrier function of the colon epithelium, reduction of dense intercellular contacts, and microbial translocation. These changes lead to the maintenance of the chronic inflammatory process, its generalization, which accelerates the destruction of the mucous membrane and increases the risk of complications. The problem of resistance to conservative therapy is one of the central ones in modern gastroenterology and NYHA surgery. If there is no timely response to medication treatment, the risk of severe complications increases many times over. Steroid resistance is a key criterion for the ineffectiveness of intensive conservative therapy, requiring rapid assessment and tactical decision-making. Steroid resistance is diagnosed if there is no clinical improvement within 5-7 days of high-dose glucocorticosteroid therapy. The most significant markers are a persistent increase in the level of C-reactive protein above 30 mg/l, leukocytosis above 12×109/l, tachycardia above 100 beats per minute, a decrease in albumin levels below 28 g/l, worsening anemia, and increased intoxication..

Absolute indications for surgery include perforation of the colon, profuse bleeding, toxic dilatation (colon diameter greater than 6 cm), sepsis, and pronounced therapeutic resistance. In such situations, delay poses a direct threat to the patient's life. Relative indicators - steroid dependence, pronounced hypoproteinemia, electrolyte imbalances, enteral insufficiency, and lack of response to biological therapy - require dynamic monitoring. The transition of relative indicators to absolute ones occurs quickly, which often leads to late operations and worsening of the prognosis. Timely detection of resistance and correct determination of indications for surgical intervention are the most important factors in reducing mortality in NYAK. The choice of surgical treatment method is determined by the severity of the patient's condition, the presence of complications, the morphological state of the intestines, and the prospects for the restoration of anal defecation in the future.

Subtotal Collectomy (STC) Subtotal collectomy is considered the optimal option for patients with severe general condition, pronounced intoxication, and life-threatening complications. It ensures rapid elimination of the inflammatory substrate, reduces intoxication, and creates conditions for further reconstruction. However, it requires the second stage - the formation of a reservoir or anastomosis.

Ileorectal anastomosis (IRA) IRA is preferable with satisfactory rectal preservation. Its advantages are the preservation of the natural act of defecation and the less complex technique of execution. However, the risk of rectal inflammation recurrence remains high. The lack of a unified standard for the level of resection complicates the choice of method.

Ileanal Reservoir (IPAA) IPAA is the most physiological operation that completely removes the affected segment. It provides a high quality of life, but requires significant surgical experience. The frequency of functional complications exceeds 35%, and the risk of anastomosis failure remains significant.

Laparoscopy and HALS Minimally invasive methods ensure reduced surgical trauma, rapid rehabilitation, minimal blood loss, and better cosmetic results. HALS is especially useful in technically complex situations - giant inflammatory conglomerates, pronounced adhesive process, obesity.

Transanal and robotic technologies They allow for ideal visualization in the narrow pelvis, reduce the length of the rectal cuff, reduce the incidence of anastomotic failure, and improve functional outcomes. The achievements of the new generation open up fundamentally new possibilities in reconstructive colon surgery.

RESEARCH MATERIALS AND METHODS This study is based on the clinical analysis of patients who received treatment for complicated forms of nonspecific ulcerative colitis in a surgical hospital. The study included patients diagnosed with various variants of severe NYHA course, accompanied by intestinal and systemic complications - profuse bleeding, toxic dilatation, threat of perforation, pronounced steroid resistance, septic manifestations, and severe metabolic homeostasis disorders. For each patient, a comprehensive clinical and diagnostic assessment was conducted, including the analysis of complaints, anamnestic data, the dynamics of symptoms against the background of drug therapy, and the results of laboratory and instrumental research methods. Particular attention was paid to the level of inflammatory markers, protein metabolism indicators, electrolyte status, severity of anemia, and signs of toxicosis. Instrumental diagnostics is represented by endoscopic studies, ultrasound imaging, computed tomography, and magnetic resonance imaging, which allow for the determination of the degree of colon damage, the presence of dilatation, wall thickness, signs of perforation threat, and paracolitis changes.

RESEARCH RESULTS Analysis of the obtained data allowed us to identify a number of key patterns that significantly influence treatment outcomes. It was established that in most patients with late admission and pronounced steroid resistance, rapid progression of intoxication and an increase in metabolic disorders were observed, which confirmed the need for early surgical correction. In patients with toxic dilatation of the colon and a threat of perforation, subtotal colectomy ensured a rapid reduction in the inflammatory background and stabilization of the general condition. The results showed that the use of minimally invasive technologies, including laparoscopy and HALS, led to a significant decrease in the frequency of wound complications, reduced blood loss, and reduced hospitalization time. Manual assistance proved especially effective in patients with pronounced adhesive process, obesity, and massive inflammatory conglomerates, where traditional laparoscopic techniques were limited. Morphological studies have shown a direct correlation between the severity of neutrophilic infiltration, the presence of crypt-abscesses, the thinning of the mucous membrane, and the severity of clinical resistance. In patients who underwent reconstructive operations with the formation of the ileoanal reservoir (IPAA), the most favorable functional results were recorded with adequate resection of the affected segment and preservation of the minimal length of the rectal cuff, which reduced the likelihood of anastomosis failure. Postoperative management significantly impacted the outcome: the use of endolymphatic antibiotic therapy reduced the frequency of septic complications, and early nutritional correction reduced the manifestations of enteral insufficiency. In the group of patients who received comprehensive postoperative management, the mortality rate was minimal.

DISCUSSION The obtained results convincingly demonstrate that surgical tactics for complicated NCA should be based not only on clinical manifestations but also on laboratory, instrumental, and morphological data reflecting the true degree of inflammatory activity. The traditional concept of waiting tactics and long-term drug treatment for severe forms of NIA is losing relevance today, as delayed surgical intervention leads to multi-organ disorders, a decrease in the body's compensatory capabilities, and an increase in mortality. Minimally invasive technologies have firmly taken a leading position among surgical methods for treating NYAK. Their advantages - minimal trauma, low risk of wound complications, faster recovery period - are especially important for patients with systemic inflammation and impaired protein-electrolyte metabolism. However, the choice of method should be individual: HALS is preferred for technically complex interventions, laparoscopic colectomy - for a stable condition, open methods - for severe toxic dilatation or perforation. Reconstructive operations require a strictly balanced approach. IRA can be effective in patients with minimal manifestations of proctitis, while IPAA provides better long-term functionality but requires high surgical qualification and preservation of the sphincter apparatus. The length of the rectal cuff is of particular importance - an excessively long cuff increases the risk of recurrence of inflammation and failure.

Morphological data complement the clinical picture and allow for predicting treatment outcomes. Pronounced neutrophilic infiltration and crypt-abscesses indicate high inflammatory

activity and a low probability of drug treatment effectiveness. The presence of dysplasia forms a high risk group for malignancy, which determines the need for more radical surgical intervention.

Thus, optimal surgical tactics are developed at the intersection of clinical, morphological, and modern technological capabilities, and only their integrated use allows for maximum results. Morphological examination of biopsies and surgical preparations was performed according to standard protocols and included an assessment of the activity of the inflammatory process, the presence of crypt-abscesses, the depth of ulcerative defects, the nature of infiltration, and signs of epithelial dysplasia. Surgical interventions were performed depending on the clinical situation and the patient's general condition. Both open and minimally invasive methods were used - laparoscopic colectomy, manual assistant surgery (HALS), subtotal resections, ileostomy formation, as well as reconstructive interventions - IRA and IPAA in patients with anatomical, functional, and inflammatory characteristics. Postoperative management included nutritional support, correction of enteral insufficiency, antibacterial therapy, and in some cases, the endolymphatic administration of drugs, which significantly reduced the risk of infectious complications.Statistical processing of the data was carried out using modern descriptive and comparative statistical methods, which ensured the objectivity of the assessment of surgical results and made it possible to identify patterns that determine the optimal treatment tactics for complicated NCA.

Morphological assessment plays a key role in diagnosing the severity of NCA. The most characteristic changes include:

- presence of crypt-abscesses,
- expressed neutrophilic infiltration,
- mucosal destruction,
- violation of crypt architectonics,
- chronic tissue remodeling processes,
- signs of epithelial dysplasia.

The relationship between morphology and clinical presentation is direct: pronounced neutrophilia determines the severe active phase of NCA, crypt-abscesses are indicators of high inflammatory activity, and dysplasia is a predictor of possible malignancy. These data help not only to clarify the stage of the disease but also to predict the effectiveness of the therapy and the risk of complications. The postoperative period in the treatment of complicated NCA is crucial for the outcome. The main directions of management are the correction of enteral insufficiency, restoration of water-electrolyte balance, nutritional support, and prevention of septic complications. Enteral insufficiency - a typical condition after total and subtotal resections - requires early administration of enteral nutrition, the use of easily digestible mixtures, and the gradual expansion of the diet. In parallel, careful correction of electrolytes is carried out. Endolymphatic antibiotic therapy, proposed by Yusupov I.A. (2023), provides a unique opportunity to deliver high concentrations of antibacterial drugs directly to the lymphatic collectors of the affected area, which significantly increases the effectiveness of therapy and reduces the risk of sepsis. Analysis of modern research and own clinical data shows:

- early surgical intervention reduces mortality by 2-3 times;
- using laparoscopy and HALS reduces the number of postoperative complications by 25-40%;
- proper patient selection for IPAA significantly improves functional outcomes and quality of life;
- morphological markers allow predicting disease resistance and outcome;
- a strict protocol of postoperative management reduces the frequency of septic complications.

Surgical tactics for complicated NCA should be as individualized as possible. The optimal approach is based on:

- assessment of inflammation activity,
- laboratory and morphological data,
- form and nature of complications,

- patient's condition,
- the possibilities of carrying out the reconstruction stage.

Minimally invasive methods - laparoscopy, HALS, transanal access - today occupy a key place and meet modern surgical standards. Personalized postoperative management, sepsis prevention, nutritional support, and dynamic assessment of morphological changes significantly improve treatment outcomes. The conducted research confirms that successful treatment of complicated forms of nonspecific ulcerative colitis is impossible without timely diagnosis of therapeutic resistance and correct choice of surgical tactics. Early surgical intervention in patients with a severe course of the disease ensures a significant decrease in mortality and the frequency of complications, while delayed surgery leads to a rapid progression of systemic disorders and a worsening prognosis. The use of minimally invasive technologies, including laparoscopy and HALS, demonstrates high efficiency, safety, and minimal trauma, making them preferred methods in most clinical situations. Reconstructive operations - IRA and IPAA - must be performed strictly individually, taking into account anatomical features and morphological data. Comprehensive postoperative management, including correction of enteral insufficiency, nutritional support, and modern antibacterial therapy, significantly improves treatment outcomes and contributes to a reduction in rehabilitation time. Thus, an individualized approach to surgical treatment of complicated NIA, based on modern diagnostic criteria and the use of minimally invasive technologies, allows for achieving optimal medical and functional results, improving the prognosis, and improving the quality of life of patients.

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ISSN 2181-9300

DOI Journal 10.26739/2181-9300

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