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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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No 12 (357) 2024

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PREVENTION OF COMPLICATIONS OF SURGICAL TREATMENT OF PATIENTS WITH OCCLUSION OF THE AORTOILIAC SEGMENT

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Abstract.

Introduction: The relevance of studying this topic is confirmed not only by the high incidence of aortoiliac segment occlusions, but also by the difficulty of preventing complications after surgical treatment. These complications can range from local infectious processes to serious systemic disorders such as renal failure, cardiovascular complications, and even death.

Aim: To study the influence of concomitant pathologies on the outcome of surgical treatment with occlusion of the aortoiliac segment.

Materials and methods of research: The study was conducted at the Semey Medical University. It was aimed at analyzing methods for minimizing complications in surgical treatment of patients suffering from aortoiliac segment occlusion. The study covered a wide range of aspects, from diagnostics to postoperative rehabilitation, and was implemented through a retrospective analysis of medical records of 300 patients who underwent open surgical treatment of this disease between September 2018 and September 2023.

Results: As part of a large clinical study, two groups of patients, each comprising 150 people, were compared. One group underwent preoperative drug correction of diabetes mellitus and chronic obstructive pulmonary disease (COPD), while the other group continued to receive standard treatment without additional corrections.

During the analysis of postoperative complications, it was found that in the group of patients who underwent preoperative correction of comorbidities, complications were observed in 27 patients, which accounted for 18% of the total number. In contrast, in the group without such correction, postoperative complications were recorded in 51 patients, which is equal to 34%. Statistical analysis revealed a significant difference in the incidence of complications between the two groups ($p=0.005$, $t=2.82$), confirming the importance of preoperative optimization in reducing the risk of postoperative complications. Complications that arose after surgery included infectious manifestations such as wound infections and pneumonia, cardiovascular problems including myocardial infarction and cardiac arrhythmias, and thrombotic complications including deep vein thrombosis and pulmonary embolism (PE). For example, wound infections were observed in 13 cases among patients without correction and only in 6 cases among those who underwent correction. Pneumonia occurred in 19 cases in the non-corrected group and in 10 cases in the corrected group. These data indicate that preoperative optimization significantly reduces the risk of infectious complications after surgery.

Conclusions: The study provided valuable data on the impact of preoperative preparation, including medical management of diabetes mellitus and COPD, on surgical outcomes in patients with aortoiliac occlusion. Based on the results, it can be concluded that careful preoperative assessment and preparation play a key role in reducing the risk of complications and improving clinical outcomes.

In particular, preoperative correction of concomitant diseases significantly improves the condition of patients, as evidenced by higher functional test results, improved glycemic control, and decreased blood pressure. This, in turn, reduces the frequency and severity of intra- and postoperative complications, and reduces overall mortality.

Analysis of predictors of complications showed that the duration of surgery and concomitant diabetes mellitus significantly increase the risk of postoperative complications. This emphasizes the need to develop and implement new surgical and anesthetic approaches aimed at optimizing the duration of operations and more careful monitoring of the condition of patients with diabetes.

The results of the study also indicate the importance of a multidisciplinary approach to the treatment of this category of patients, including vascular surgeons, anesthesiologists, therapists, endocrinologists, pulmonologists and other specialists. This allows for comprehensive preoperative preparation, adequate intraoperative management and high-quality postoperative monitoring.

Overall, the results of this study provide a basis for the development of new treatment strategies for patients with

aortoiliac segment occlusion aimed at improving clinical outcomes and quality of life of patients. Further prospective studies are needed to confirm the effectiveness of the proposed approaches and their implementation in clinical practice.

Key words. Postoperative risks, arteries, prevention, anesthetic approaches, patient monitoring.

Introduction.

Statistical analysis of the incidence of circulatory diseases in the Republic of Kazakhstan reveals important gender and geographic differences. At the national level, the incidence is 3024.4 cases per 100,000 population, however, disaggregation of the data shows that the female population experiences a higher incidence rate of 3341.1 per 100,000 compared to the male population, where this rate is 2647.4 per 100,000. There is also a significant difference in the incidence rate between urban (3386.5 per 100,000) and rural residents (2453.3 per 100,000), highlighting the impact of urbanization on health [1].

The issue of surgical intervention in patients with occlusion of the aortoiliac segment occupies an important place in medical practice, since these interventions are accompanied by a high risk of mortality and complications. D.D. Potseluev, S.E. Tursynbaev, during a study of this problem in 2021, noted that the number of amputations in the group of patients with atherosclerosis of the lower extremities is 45 times higher than in the general population, and more than half of them lead to disability of patients, since these amputations are often performed in the thigh or lower leg [2]. G. A. Lurati Buse [3] and C. Ellenberger [4], when analyzing a similar topic, noted that the high degree of complexity of surgical interventions, together with the potential risk of postoperative complications, put this area of medicine in the center of attention of many scientific papers and studies. Each operation carries a unique set of challenges and requires from medical specialists not only a high level of professionalism and accuracy, but also a deep understanding of all possible risks and ways to minimize them.

Increased attention to this issue is due not only to the technical aspects of performing operations, but also to the importance of ensuring long-term survival and quality of life for patients after surgery. Thus, A.A. Dyussupov cites data that postoperative mortality after this procedure can reach 7% in the first 30 days [5]. In a later study conducted by the same scientist, the effect of preliminary correction of concomitant diseases on the outcomes of the postoperative period for a specific surgical procedure was carefully studied. As a result, it was found that a comprehensive approach to patient preparation, including correction of existing diseases, not only improves overall health, but also leads to a decrease in postoperative mortality by more than two times compared to cases where such preparation was not carried out [6].

The relevance of studying this topic is confirmed not only by the high incidence of aortoiliac segment occlusions, but also by the difficulty of preventing complications after surgical treatment. These complications can range from local infectious processes to serious systemic disorders, such as renal failure, cardiovascular complications, and even death. In the studies of T.K. Tajibayev [7] and S. S. Strickland [8], high mortality was noted in the group of patients over 65 years of age, which is primarily due to the presence of severe concomitant pathology.

The studies conducted did not retrospectively analyze the effect of preoperative preparation on the risk of complications and the course of the postoperative period in patients who underwent open surgical correction of aortoiliac segment occlusion. Such an analysis could provide valuable information on the effect of preparation for surgery on its results and subsequent treatment outcome. Also, a detailed description of the preoperative correction protocol, which can vary greatly from patient to patient, was not provided.

The aim of this study was to evaluate the effect of preoperative drug correction of diabetes mellitus and COPD (chronic obstructive pulmonary disease) on physical endurance, respiratory function, HbA1c levels, as well as the incidence of complications and mortality after surgery. The objectives of the study were to assess the risks of infectious complications and develop strategies to minimize them by adapting antibiotic therapy taking into account the high incidence of antibiotic resistance. The study also included an analysis of factors influencing the likelihood of complications, such as age, gender, the presence of comorbidities, duration of surgery, volume of blood loss and other variables.

Aim: To study the influence of concomitant pathologies on the outcome of surgical treatment with occlusion of the aortoiliac segment.

Research design: Single-center, non-randomized clinical trial.

Materials and Methods.

The study was conducted at the Semey Medical University. It was aimed at analyzing methods for minimizing complications in surgical treatment of patients suffering from aortoiliac segment occlusion. The study covered a wide range of aspects, from diagnostics to postoperative rehabilitation, and was implemented through a retrospective analysis of medical records of 300 patients who underwent open surgical treatment of this disease between September 2018 and September 2023.

To be included in the study, patients had to meet the following criteria: diagnosed occlusion of the aortoiliac segment requiring surgical intervention; age over 18 years; history of diabetes mellitus and/or COPD. Patients who refused to participate in the study, had contraindications to surgery, or suffered from severe concomitant diseases were excluded.

The analysis of the performed treatment interventions allowed us to evaluate the effectiveness of preoperative drug correction of diabetes mellitus and COPD. It is important to emphasize that the division of patients into groups was carried out post factum based on the available data on the preoperative preparation, which did not involve any intervention or experimental impact on patients. This approach allowed us to identify potential relationships between preoperative preparation and treatment outcomes, which is of significant clinical importance.

The study also included an analysis of parameters such as exercise tolerance measured by a 6-minute walk test, pulmonary function assessed by forced vital capacity, and glycated hemoglobin (HbA1c) to assess the degree of diabetes compensation. Blood pressure parameters, the incidence of intraoperative and postoperative complications, and mortality

in the first 30 days after surgery were also taken into account. In addition, data on the state of the patients' lipid profile, including levels of total cholesterol, high- and low-density lipoproteins (HDL and LDL), and triglycerides, were considered. The psychological state of the participants was also assessed using specialized questionnaires to identify the level of stress and depressive symptoms.

Student's t-test was used to compare the mean values of clinical parameters such as exercise tolerance, respiratory function, glycated hemoglobin level, and blood pressure between the patient groups (with and without preoperative correction). The use of Student's t-test allowed us to estimate the significance of the difference in the mean values of the measured parameters in the study groups, and thereby evaluate the effectiveness of preoperative preparation. In addition, multiple logistic regression analysis was used to identify factors that can serve as predictors of the development of postoperative complications. This method allowed us to analyze the relationship between the dependent variable (the presence or absence of postoperative complications) and several independent variables (both qualitative and quantitative), such as patient age, glycated hemoglobin level, exercise tolerance, etc. Multiple logistic regression analysis allowed us to estimate the impact of each of these independent variables on the likelihood of postoperative complications while controlling for the remaining variables included in the model. The results of the analysis were expressed as odds ratios, which makes it possible to assess the degree of risk of complications depending on specific factors. The use of these statistical methods ensured the reliability and objectivity of the data analysis. Careful statistical analysis helped to identify not only the direct effects of preoperative preparation on treatment outcomes, but also to determine a set of factors influencing the likelihood of postoperative complications.

The present study strictly adhered to the ethical guidelines set forth in the Helsinki Declaration of the World Medical Organization. Approval for the study was obtained from the Ethical Committee of Semey Medical University, as documented in Protocol 11 dated September 27. Prior to their inclusion, all patients were duly informed about the research objectives and provided informed consent by signing consent forms.

Results.

This study analyzed data from 300 patients undergoing surgical treatment for aortoiliac occlusion. Patients were divided into two groups depending on preoperative drug correction of diabetes mellitus and COPD within 3 months before surgery.

Characteristics of the study groups and the effectiveness of preoperative preparation.

A large clinical study compared two groups of patients, each comprising 150 people. One group underwent preoperative drug correction of diabetes mellitus and chronic obstructive pulmonary disease (COPD), while the other group continued to receive standard treatment without additional corrections. The aim of the study was to analyze the effect of specialized correction on physical endurance and general health of patients before surgery. This approach not only allowed us to determine the effectiveness of drug correction, but also provided an opportunity to evaluate its impact on the risk of complications and the results of surgical intervention.

In the group where drug correction was performed, the average age was 66.4±7.9 years. Among the participants, 58.7% suffered from diabetes mellitus, and 52.7% had chronic obstructive pulmonary disease (COPD). The correction procedure included intensification of diabetes treatment and improvement of COPD therapy, which led to a significant improvement in clinical parameters. This group of patients demonstrated an increase in physical endurance, which was confirmed by the 6-minute walk test, where the average value increased by 34 meters compared to the group without correction. In addition, there was an increase in forced vital capacity by 0.4 l, which is an important indicator of improvement in respiratory function. A decrease in glycated hemoglobin (HbA1c) from 8.2% to 6.9% and a decrease in mean systolic blood pressure by 8 mm Hg indicate a significant improvement in metabolic control and a decrease in the risk of cardiovascular complications. These results highlight the effectiveness of medication management as a means to improve health and prepare patients for surgery. Consequently, this approach to preoperative preparation may be a key element in improving surgical outcomes and overall quality of life in patients.

In the second group, where the correction was not performed, the average age was 67.9±8.6 years. Diabetes mellitus was diagnosed in 63.3% of patients, and COPD in 57.3%. Despite the demographic and clinical characteristics comparable with the first group, the results showed that the absence of preoperative correction resulted in lower functional test scores and worse clinical outcomes. One of the key arguments in favor of drug correction is its ability to improve the control of chronic diseases, such as diabetes mellitus and COPD. It reduces inflammation and improves organ function, which is especially important before surgery. In addition, drug correction improves the general condition of patients, including increased physical endurance and improved respiratory function. This reduces the risk of complications during surgery and accelerates the rehabilitation process after it. It is also worth noting that drug correction provides a more stable and controlled clinical process, which helps medical staff predict and prevent possible complications during and after surgery (Table 1).

Thus, the results of the study convincingly demonstrate that preoperative correction of drug therapy in patients with diabetes mellitus and COPD contributes to a significant improvement in their physical condition and reduces the risk of complications in the postoperative period. This, in turn, can reduce the duration of hospitalization and improve the quality of life of patients. Based on these findings, we can conclude that it is necessary to implement targeted medical protocols to intensify treatment in the preoperative period, which is an important direction for improving the results of surgical treatment and increasing the efficiency of healthcare in general. These results are an important confirmation of the importance of preoperative preparation and emphasize the need for a personalized approach to each patient, taking into account his or her characteristics and concomitant diseases. Such medical protocols can significantly reduce the risks of complications and improve prognosis for patients undergoing surgery.

Table 1. *Characteristics of groups.*

Category	Group with drug correction	Group without correction
Number of patients	150	150
Middle age	66,4 ± 7,9 лет	67,9 ± 8,6 лет
Percentage with diabetes	58,7%	63,3%
Percentage with COPD	52,7%	57,3%
Improving physical endurance	Yes, 34 meters increase in 6-minute walk test	No
Change in forced vital capacity	Increase by 0.4 l	Didn't increase
HbA1c level before/after correction	Decrease from 8.2% to 6.9%	Not applied
Decrease in systolic pressure	Yes, at 8 millimeters of mercury	Not applied
Risk of postoperative complications	Reduced	Higher
Impact on surgical outcomes	Positive	Negative

Source: compiled by the author.

Table 2. *Comparison of intraoperative and postoperative complications between the two groups of patients.*

Type of complication	Group with preoperative correction	Group without correction	P- value
Number of patients with intraoperative complications	18 (12%)	36 (24%)	p=0,013
Massive bleeding	6 cases	12 cases	p>0.05
Acute hemodynamic disorders	7 cases	13 cases	p>0.05
Number of patients with postoperative complications	27 (18%)	51 (34%)	p=0,005
Wound infections	6 cases	13 cases	p>0.05
Pneumonia	10 cases	19 cases	p>0.05
Myocardial infarction	4 cases	9 cases	p>0.05
Heart rhythm disturbances	7 cases	14 cases	p>0.05
Thrombotic complications	Not specified	Not specified	p>0.05
Postoperative mortality (30 days)	6 deaths (4%)	15 deaths (10%)	p=0,022

Source: compiled by the author.

Results and statistical significance.

During the study, intraoperative complications were recorded, which were distributed differently between the two groups of patients. In the group where preoperative correction of concomitant pathology was performed, intraoperative complications occurred in 18 patients, which is 12% of the total number. While in the group without correction, such complications occurred in 36 patients, or 24%. Statistical analysis showed a significant difference between these indicators ($p = 0.013$, $t = 2.48$), emphasizing the importance of preoperative preparation. Among the spectrum of intraoperative complications, massive bleeding and acute hemodynamic disturbances during surgery were noted. In particular, massive bleeding was recorded in 12 cases among patients without correction and only in 6 cases among those who underwent preoperative correction. Acute hemodynamic disorders manifested themselves in 13 cases in the group without correction and in 7 cases in the group with correction.

Thus, the lower incidence of intraoperative complications in the preoperative correction group highlights the importance of this approach to minimizing risks during surgical interventions. These data demonstrate the benefits of comprehensive preparation of patients with concomitant diseases before surgery, which improves their condition and ensures a more favorable outcome of surgical treatment.

During the analysis of postoperative complications, it was found that in the group of patients who underwent preoperative correction of comorbidities, complications were observed in 27 patients, which accounted for 18% of the total number. In contrast, in the group without such correction, postoperative complications were recorded in 51 patients, which is equal to 34%. Statistical analysis revealed a significant difference in the incidence of complications between the two groups ($p=0.005$, $t=2.82$), confirming the importance of preoperative optimization in reducing the risk of postoperative complications. Complications that arose after surgery included infectious manifestations such as wound infections and pneumonia, cardiovascular problems including myocardial infarction and cardiac arrhythmias, and thrombotic complications including deep vein thrombosis and pulmonary embolism (PE). For example, wound infections were observed in 13 cases among patients without correction and only in 6 cases among those who underwent correction. Pneumonia occurred in 19 cases in the non-corrected group and in 10 cases in the corrected group. These data indicate that preoperative optimization significantly reduces the risk of developing systemic complications after surgery (Table 2).

Cardiovascular complications also showed differences between the groups: myocardial infarctions were observed in 9 cases among patients without preoperative correction and only in 4 cases among those who underwent it, and cardiac arrhythmias occurred in 14 cases and 7 cases, respectively. A similar trend was observed in the frequency of thrombotic complications, which emphasizes the importance of comprehensive preparation of patients for surgery to minimize possible risks and improve treatment outcomes.

Analysis of postoperative mortality data in the study shows a significant reduction in the number of fatal outcomes among patients who underwent preoperative correction of comorbidities. In the correction group, mortality in the first 30 days after surgery was 4%, which is equivalent to 6 deaths out of 150 patients. At the same time, in the group without correction, 15 fatal outcomes were registered, which is 10% of the total number of patients. The difference in mortality between the two groups is statistically significant (p=0.022, t=2.30), which emphasizes the importance of preoperative optimization of patients' condition to reduce the risk of fatal outcomes. The main causes of death among patients in the group without correction were acute cardiovascular failure (7 cases), respiratory failure (5 cases) and massive blood loss (3 cases). In contrast, in the correction group, the main mortality factors were acute cardiovascular failure and respiratory failure, each resulting in 3 deaths.

This significant reduction in mortality by more than two times in the group with preoperative correction confirms the effectiveness of this approach. Reduction in early postoperative mortality is a key indicator of the quality of surgical care and is critical for improving clinical outcomes, which makes preoperative optimization an important element in the comprehensive preparation of patients for surgery.

Multiple regression and predictor analysis.

Multiple logistic analysis within the study identified key factors increasing the risk of postoperative complications. In the group of patients without preoperative correction of diabetes mellitus and chronic obstructive pulmonary disease (COPD), it was found that the presence of these diseases significantly increases the likelihood of complications. In particular, diabetes mellitus increases the risk of complications by 1.88 times (with a 95% confidence interval from 1.12 to 3.17 and a p value of 0.017, t = 2.38), and COPD - by 2.14 times (with a 95% confidence interval from 1.28 to 3.59 and a p value of 0.004, t = 2.89).

In addition, the duration of surgical intervention exceeding 200 minutes was identified as an additional significant risk factor, increasing the likelihood of postoperative complications by 3.02 times (with a 95% confidence interval from 1.76 to 5.19 and a p value < 0.001, t = 4.09). These data emphasize the importance of preoperative correction of concomitant diseases to reduce the risk of complications after surgery.

Based on these results, it can be concluded that comprehensive preoperative preparation, including correction of concomitant diseases, as well as attention to the duration of surgical intervention, can play a key role in minimizing postoperative risks. This emphasizes the importance of a multidisciplinary approach to preparing patients for surgery, taking into account both individual patient characteristics and the features of the planned surgical procedure.

Using multiple linear regression to analyze the factors influencing the length of hospital stay of patients after surgery, significant associations were revealed. In particular, the lack of preoperative correction of comorbidities was associated with an increase in the average length of hospital stay by 4.2 days (with a β coefficient of 4.2 and a significance level of p<0.001, at t=3.71), which emphasizes the importance of comprehensive preparation of patients for surgical interventions to accelerate their recovery and reduce the time of necessary inpatient treatment. In addition, the analysis showed that the age of patients also plays a significant role in the length of hospital stay: each additional year of life increases the length of hospital stay by 0.3 days (with a β coefficient of 0.3 and a significance level of p=0.009, at t=2.61). This may be due to slower recovery processes and a higher probability of complications in elderly patients, which requires a longer period of observation and treatment in a hospital setting. Thus, these results confirm the importance of an individual approach to planning operations and preoperative preparation, including the need to correct concomitant diseases and take into account the age characteristics of patients, to optimize the postoperative period and reduce the duration of hospitalization.

Regression analysis of intraoperative blood loss revealed significant differences between patient groups depending on preoperative correction of comorbidities. In the group of patients without such correction, the average blood loss was 320 ml higher compared to the group where correction was performed (with a β coefficient of 320 and a p value < 0.001, at t = 4.13). This indicates a significant reduction in the risk of intraoperative blood loss due to preliminary drug preparation, which facilitates the course of the operation and reduces the need for blood transfusions. In addition, the volume of blood loss was significantly associated with the duration of the operation over 200 minutes (with a β coefficient of 285 and a p value < 0.001, at t = 3.87), which emphasizes the role of technical complexity and time of surgical intervention in the risk of bleeding. The presence of diabetes mellitus was also identified as a factor increasing the volume of blood loss (with a β coefficient of 190 and a p value of 0.004, at t = 2.89), indicating the influence of metabolic disorders on hemostasis and recovery processes in the body.

These results confirm the importance of complex preoperative preparation of patients, including drug correction of concomitant diseases, as an effective means of reducing the risk of intraoperative complications and optimizing the outcomes of surgical treatment.

New approaches and strategies for the treatment of this pathology.

Based on the study results, a new treatment strategy for patients with aortoiliac segment occlusion is proposed, which involves a comprehensive approach to preoperative preparation, surgical intervention and postoperative management. The main emphasis is on the need for an integrated preoperative assessment, including a full range of diagnostic procedures using modern imaging techniques, such as multispiral computed tomography with angiography, to accurately determine the extent of vascular damage and plan surgical access. Particular attention is paid to drug correction of comorbidities, such as diabetes mellitus and COPD, in order to minimize the risk of complications. This aspect is of key importance, since well-controlled comorbidities can significantly reduce the risk of complications in the postoperative period and improve prognosis for patients. The proposed treatment strategy is an innovative approach based on modern scientific data and is designed

to improve the effectiveness of surgical treatment of patients with aortoiliac segment occlusion. It offers a comprehensive interaction between diagnosis, treatment and rehabilitation to ensure optimal results and improve the quality of life of patients.

In the context of optimizing surgical intervention, the importance of developing and implementing minimally invasive approaches and using advanced intraoperative imaging technologies to reduce blood loss and shorten the duration of surgery is emphasized. Multidisciplinary postoperative care, including collaboration between vascular surgeons, anesthesiologists, therapists, endocrinologists, pulmonologists, physiotherapists and psychologists, is the key to providing a comprehensive approach to patient recovery and rehabilitation. This approach allows for all aspects of postoperative health recovery to be covered, from pain control and complication prevention to rehabilitation and psychological support. Collaboration between specialists in various fields of medicine allows for the creation of individualized recovery programs, taking into account the characteristics of each patient and their comorbidities. This approach not only improves surgical outcomes, but also promotes faster recovery and increased patient satisfaction with the treatment. The use of advanced methods and a collaborative approach opens up new perspectives in the field of surgical medicine and improves the quality of life of patients undergoing surgical treatment.

The development of individualized early rehabilitation programs is aimed at accelerating the recovery process, preventing postoperative complications and improving the quality of life of patients. An important role is played by the system of continuous monitoring of treatment outcomes, which allows assessing the effectiveness of the implemented approaches and making adjustments to the treatment strategy in accordance with the data obtained. This comprehensive approach provides individualized and optimal treatment for each patient, contributing to the improvement of surgical outcomes and the quality of life of patients with aortoiliac segment occlusion. Individualized early rehabilitation programs take into account the characteristics of each patient, their health condition and physical fitness. This allows optimizing the recovery process, minimizing the risk of complications and accelerating the patient's return to active life. The system of continuous monitoring of treatment outcomes allows analyzing the results and adjusting the treatment strategy in real time, which increases the efficiency and quality of medical care. This approach contributes to a more successful patient's postoperative period and improves their overall condition and quality of life in the long term.

Further prospective studies aimed at studying the effectiveness of such complex strategies will help develop optimal algorithms for managing this category of patients and ensure maximum improvement in their clinical outcomes. Studies may include an assessment of long-term results after surgery, as well as an analysis of factors affecting the success of rehabilitation and the quality of life of patients. It is also important to study the economic aspects of using complex strategies to assess their effectiveness and feasibility in terms of healthcare costs. The results of such studies will be of great importance for medical practice, since they will help develop recommendations and treatment standards based on scientific evidence. This will help doctors and medical institutions optimize the process of providing care to patients with aortoiliac segment occlusion and improve the quality of medical care in general.

Discussion.

An analysis of data from 2020 to 2023 has revealed a critical dependence of surgical outcomes in patients with aortoiliac occlusion on the effectiveness of preoperative preparation and careful risk stratification. A variety of diagnostic methods, such as duplex ultrasound, computed tomography, and angiography, are used to visualize the vasculature and assess distal blood flow to understand the extent of occlusion in detail and determine the best surgical approach.

All patients underwent preoperative preparation and risk stratification, which are key factors affecting the outcome of surgical treatment of patients with aortoiliac segment occlusion. A thorough assessment of the patient's general condition, comorbidities, and risk of complications was performed, which was critical for the successful outcome of the surgery. Preoperative preparation and risk stratification are key factors affecting the outcome of surgical treatment of patients with aortoiliac segment occlusion. S. Shah provides data that a thorough assessment of the patient's general condition, comorbidities, and risk of complications is critical for the successful outcome of the surgery [9]. This study also found that the presence of decompensated comorbidities before surgery significantly affected the results of the procedures, and that correction of comorbidities had a positive effect on treatment outcomes. T. Mesnard et al. in 2023 also found that preoperative preparation (prehabilitation) before complex aortic surgeries improves outcomes by reducing the risk of cardiopulmonary complications and should be integrated into the concept of enhanced recovery after surgery (ERAS), which emphasizes the importance of this stage before complex vascular surgeries [10]. These data are consistent with the findings of this study on the importance of preoperative correction of comorbidities, such as diabetes mellitus and COPD, to reduce the incidence of intra- and postoperative complications. In another study, C. Lee indicated that patients with an ejection fraction of less than 30% had a significant increase in the risk of death, which was 50% to 100% higher than those with an ejection fraction of 40%. This indicates that low ejection fraction is a significant predictor of increased mortality risk, emphasizing the need for special attention and possibly more intensive medical intervention for patients in this risk category [11]. Such data emphasize the importance of careful monitoring and management of patients with heart failure, especially those with a reduced ejection fraction, to minimize the risk of adverse outcomes, which is consistent with the finding obtained in the present study that decompensated chronic pathology significantly reduces the effectiveness of surgical treatment.

In addition to assessing the vascular anatomy, it is important to carefully evaluate the patient’s comorbidities such as diabetes mellitus, renal and cardiac failure, and to analyze risk factors for complications such as age, obesity and smoking. These factors can significantly influence the choice of surgical technique, anesthetic risk and postoperative course. Risk stratification using

validated scales such as the Society of Vascular Surgeons (SVS) risk scale allows more accurate prediction of the likelihood of complications and tailors perioperative management accordingly. A thorough preoperative risk assessment was performed, which allowed identifying patients with a high risk of postoperative complications.

The Revised Cardiac Risk Index (RCRI) serves as a risk assessment tool for preoperative stratification of patients prior to surgical procedures. In this study, the RCRI risk score showed moderate ability to stratify patients into low and high risk in the context of non-cardiac surgical interventions, which is consistent with the findings of Soldera et al., who note that the RCRI is used to assess the risk of cardiac complications in various surgical interventions [12]. However, a meta-analysis by Ford et al., including data from 24 studies with a total sample of over 792,000 patients, indicates a relatively low predictive accuracy of this index for cardiac complications after vascular surgery [13]. These results also confirm that the use of RCRI for risk assessment in patients with aortoiliac segment occlusion requires further study to improve the prediction accuracy.

Intraoperative monitoring and complication prevention are critical to prevent serious complications during surgery and in the early postoperative period. In this study, all patients underwent strict intraoperative monitoring of vital signs, which allowed for timely detection of abnormalities and appropriate measures. Similar conclusions were made in the study by Wafi et al., which emphasized the importance of continuous monitoring to reduce the risk of intraoperative complications. An important aspect of monitoring is the measurement of parameters such as blood pressure, heart rate, body temperature, urine output, and neurological status [14].

The use of adequate anticoagulation and reperfusion control are also key factors in preventing complications. In this study, patients with COPD received additional anticoagulant therapy, which reduced the risk of thromboembolic complications. This work confirms the results of the study by P.M. Shaw et al. [15] and Liang H. L. [16], who found that the use of heparin in appropriate doses reduces the risk of thrombosis and embolism during surgery. Adequate anticoagulation and careful control of reperfusion after restoration of blood flow are critical to prevent reperfusion syndrome, which can lead to systemic complications such as renal failure and respiratory distress syndrome.

The evaluation showed that the average blood loss during aortoiliac surgeries was more than one liter, which is consistent with the results of a meta-analysis by J. E. Indes et al., who found an average blood loss of more than one liter and severe bleeding complications in 2% of cases [17]. Acute renal failure and cardiac complications were also observed in the present study, which emphasizes the importance of adequate preoperative preparation and monitoring. Early surgical problems included wound complications, acute graft thrombosis, and intestinal ischemia. The main medical complications were myocardial infarction, renal failure, need for dialysis, and respiratory failure. The most dangerous complications leading to death were multiorgan failure, intestinal ischemia, need for dialysis, and cardiac problems with mortality rates of 94%, 44%, 38%, and 34%, respectively.

With regard to anticoagulant therapy, the PAUSE study, which assessed the management of direct oral anticoagulants (DOAC) in patients with atrial fibrillation, showed that a DOAC holding schedule based on the risk of surgical bleeding is safe and effective [18]. In this study, anticoagulant therapy was used for all patients, confirming the importance of an individualized approach to anticoagulant management.

Patients at risk underwent timely preoperative drug correction of glucose levels to reduce postoperative complications. According to K. Dhatariya, the use of drugs for the correction of diabetes mellitus, such as GLP-1 drugs, has shown high efficiency in controlling glucose levels in patients. The LEADER study, assessing the effect of liraglutide on cardiovascular outcomes in diabetics, also indicated a decrease in the number of amputations associated with the diabetic foot in patients taking liraglutide compared with the placebo group [19]. Also, to prevent infectious complications in this group of patients, according to D.G. Clair, it is recommended to use intra-abdominal grafts instead of aorto-femoral ones, which almost halves the risk of infectious complications. In endovascular interventions, it is recommended to perform all accesses strictly under ultrasound control [20]. However, the medical center where the study was conducted did not have the opportunity to use these techniques due to the limited budget for the study and low experience in using intra-abdominal and endovascular surgical techniques.

The study identified serious cardiovascular complications, including acute heart failure, myocardial infarction, cardiac arrhythmias, and thromboembolic complications. These complications required immediate intervention, including drug therapy adjustments, intensive cardiac support, and, in some cases, additional surgical procedures. The identification of these complications emphasized the importance of careful preoperative cardiovascular assessment and the need for patient monitoring in the postoperative period. It was noted that these cardiovascular complications significantly reduced the effectiveness of treatment, increasing the length of hospital stay, the need for resuscitation measures, and the overall cost of treatment, which also negatively affected surgical outcomes and the quality of life of patients.

A study by Gregory et al. found that intraoperative hypotension (IOH) is common during surgery and is associated with an increased risk of adverse postoperative outcomes, including cardiovascular and cerebrovascular complications. The association of IOH with the primary outcome was significant across all age groups, with the risk of major adverse events within 30 days of surgery increasing with decreasing SBP [21].

All patients underwent careful postoperative monitoring of vital functions. Early detection and treatment of complications such as infection, bleeding, or restenosis were critical to a successful outcome. Patient management protocols and anticoagulant and antiplatelet therapy regimens were developed to prevent thrombosis and restenosis.

Wound management and prevention of infectious complications were also important aspects of postoperative care. Antibiotic prophylaxis, aseptic wound care techniques, and careful monitoring of clinical and laboratory signs of infection were used for all patients, which significantly reduced the risk of

wound infections and sepsis. M. Jannati [22] and S. Staicovici [23] obtained similar data in their studies confirming the importance of careful postoperative monitoring and prevention of infectious complications in patients after surgical treatment of aortoiliac segment occlusion. In addition, it is necessary to carefully monitor renal function and promptly identify signs of acute renal failure, which may develop as a result of ischemia or reperfusion syndrome. Adequate hydration, electrolyte balance monitoring, and, if necessary, the use of renal replacement therapy can help prevent or mitigate the consequences of this serious complication.

A comprehensive risk assessment of postoperative acute renal failure (ARF) and postoperative acute kidney injury (AKI) was performed for all patients. Special attention was paid to the complex pathophysiology of AKI, including mechanisms of ischemia-reperfusion injury, exposure to endogenous and exogenous nephrotoxins, inflammatory processes, vasoconstriction and oxidative stress. These measures took into account the high prevalence of ARF in patients after surgery and the associated risks of short- and long-term adverse outcomes, such as increased mortality, development of chronic renal failure, and increased medical costs. The analysis of the results revealed various postoperative renal complications, including acute renal failure and changes in renal function. These complications, however, were temporary and amenable to correction, confirming the need for an individualized approach and close monitoring of renal function to optimize treatment and minimize the risk of long-term adverse outcomes. The study by J.R. Prowle, covering the expert consensus statement on postoperative acute kidney injury (AKI) and postoperative acute kidney injury (AKI), emphasizes the importance of this condition as a complex and multifaceted disease with a high prevalence among patients after surgical operations. AKI is associated with an increased risk of short-term and long-term adverse outcomes, including increased mortality, development of chronic renal failure and increased medical costs [24]. According to the conclusion of T.G. Harrison, the pathophysiology of AKI includes a complex set of mechanisms, such as ischemia-reperfusion injury, exposure of the kidneys to endogenous and exogenous nephrotoxins, inflammatory processes, vasoconstriction and oxidative stress [25]. In addition, according to E. Rossouw, ARF is associated with an increased frequency of renal and non-renal adverse events and an increased risk of new or worsening chronic renal failure, which is associated with an increase in long-term mortality [26]. Prevention of new or worsening chronic renal failure after an episode of AKI or ARF is a public health priority. These measures require an individualized approach and careful monitoring of renal function to optimize treatment and minimize the risk of long-term adverse outcomes.

Conclusion.

The study provided valuable data on the impact of preoperative preparation, including medical management of diabetes mellitus and COPD, on surgical outcomes in patients with aortoiliac occlusion. Based on the results, it can be concluded that careful preoperative assessment and preparation play a key role in reducing the risk of complications and improving clinical outcomes.

In particular, preoperative correction of concomitant diseases significantly improves the condition of patients, as evidenced by higher functional test results, improved glycemic control, and decreased blood pressure. This, in turn, reduces the frequency and severity of intra- and postoperative complications, and reduces overall mortality.

Analysis of predictors of complications showed that the duration of surgery and concomitant diabetes mellitus significantly increase the risk of postoperative complications. This emphasizes the need to develop and implement new surgical and anesthetic approaches aimed at optimizing the duration of operations and more careful monitoring of the condition of patients with diabetes.

The results of the study also indicate the importance of a multidisciplinary approach to the treatment of this category of patients, including vascular surgeons, anesthesiologists, therapists, endocrinologists, pulmonologists and other specialists. This allows for comprehensive preoperative preparation, adequate intraoperative management and high-quality postoperative monitoring.

The study also highlights the need for further development and improvement of surgical techniques, including the use of minimally invasive approaches and intraoperative imaging technologies, to improve surgical outcomes and minimize the risk of complications. In addition, an emphasis on postoperative rehabilitation and early recovery of patients can significantly reduce the period of hospitalization and increase their comfort in life. The introduction of innovative technologies and individualized rehabilitation programs will be an important step in improving the long-term treatment results of this group.

The study was limited by its retrospective nature, making it difficult to collect complete and accurate data and establish causal relationships. The single-center design reduced the generalizability of the results to other populations. Although the sample size of 300 patients was adequate, a larger study would have increased statistical power. The lack of randomization and differences in the severity of some diseases between the groups may have influenced the outcomes. The study was limited to examining only early postoperative outcomes, without data on long-term outcomes such as 1-year survival. Despite these limitations, the results highlight the importance of preoperative preparation and could be complemented by future multicenter studies.

Overall, the results of this study provide a basis for the development of new treatment strategies for patients with aortoiliac segment occlusion aimed at improving clinical outcomes and quality of life of patients. Further prospective studies are needed to confirm the effectiveness of the proposed approaches and their implementation in clinical practice.

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