



Modern Diagnostics and Surgical Treatment of Complicated Forms of Liver Echinococcosis

1. Akhmadova Maftuna Amin Qizi

Received 2nd Jun 2022,
Accepted 3rd Jul 2022,
Online 22th Aug 2022

¹ Bukhara state medical institute

Abstract: In the clinical course of the disease, there are three stages: asymptomatic, progressive. To evaluate approaches to surgical treatment of complicated forms of liver echinococcosis. From 2018 to 2022, surgical treatment of liver echinococcosis was performed in 197 patients, of which 157 (79.7%) had primary echinococcosis, and 40 (20.3%) had recurrent echinococcosis. ... The data on the treatment of 46 (22.8%) patients with complicated echinococcosis are analyzed. 4 patients had associated complications. Among the complicated forms of liver echinococcosis, cyst suppuration is most common. Among the complicated forms of liver echinococcosis, cyst suppuration is most common. Patients with complicated liver echinococcosis should be operated in a specialized institution with modern diagnostic and therapeutic equipment, highly qualified specialists.

Key words: complicated echinococcosis, surgical treatment, diagnostics, devastation measures.

One of the most severe and dangerous complications of parasitic liver diseases is the involvement of the biliary tract in the pathological process due to the breakthrough of an echinococcal cyst into the biliary tree, which occurs in 1.3-55% of cases [5, 6] and at the same time the mortality rate reaches 4.2-8.1% [7]. With perforation of an echinococcal cyst into the biliary tract, when urgent surgical intervention is required, it is extremely difficult to clinically diagnose (in 79% there is a non-jaundiced form of such a complication [8]), and with the help of instrumental methods it is almost impossible. An echinococcal cyst of internal organs (liver, kidneys, spleen, etc.) is usually recognized when a tight-elastic tumor is felt, and damage to the lungs and bones is determined on X-ray images in the form of cystic formations. Echinococcosis is a parasitic disease endemic to many regions. Echinococcal invasion can affect any part of the body and manifest itself in different ways depending on the stage of development, associated complications, and the patient's body response. Echinococcal disease is widespread in many countries of the world. [1]. According to some estimates, more than 1 million people are currently affected by echinococcosis in the world, while the incidence in some endemic and non-endemic regions differs by more than 200 times. In the last decade, there has been an increase in the incidence of echinococcosis and the expansion of the geographical boundaries

of the disease. According to the WHO, out of 50 million people who die every year in the world, more than 16 million are caused by infectious and parasitic diseases. This class of diseases remains the leading one in the structure of causes of death in the 21st century. WHO is working to approve effective strategies to combat echinococcosis by 2018 [2]. At present, the issues of surgical treatment of complicated forms of liver echinococcosis continue to remain controversial and require further study. The frequency of complicated forms of liver echinococcosis reaches 84.6%, and relapses are observed in 54.0%. This is due to a number of factors, which, first of all, include the increased migration of the population, the deterioration of the sanitary and epidemiological situation, primarily in regions endemic for echinococcosis, a low level of medical examination of the population and, to a greater extent, its discontinuation, including in risk groups. Echinococcal cysts, especially large ones, not only cause organ dysfunction, but can cause a number of severe complications. These include ascites with liver damage, cyst suppuration, anaphylactic shock, internal bleeding, peritonitis with rupture of the cyst capsule. [3]. Echinococcosis and its complications are characterized by long-term chronic or recurrent course, severe organ and systemic disorders, extensive lesions leading to disability and often death of the patient [2]. One of the most frequent complications of liver echinococcosis is cyst suppuration in 15–34% of patients. There is no consensus among surgeons-hepatologists regarding the choice of methods and methods of surgical treatment for suppuration of echinococcal cysts of the liver. A number of authors [4, 5] use radical interventions with removal of the fibrous capsule as a cause of suppuration and recurrence of the disease. Damage to the bile ducts is the second most frequent among complications of liver echinococcosis and occurs in 15.8–20.1% of patients. [6]. Analysis of literature data shows that the issue of surgical treatment of echinococcosis of the liver, complicated by lesions of the bile ducts, continues to be a serious problem of surgery. This is due to the complexity of the diagnosis of biliary tract lesions, the lack of a unified surgical tactics, which leads to a significant number of postoperative complications with a high mortality rate, which reaches 8%. Therefore, it is very important and relevant to develop indications and contraindications for certain surgical interventions for liver echinococcosis complicated by cystobiliary fistulas (CSF) [7]. The most difficult and unresolved issue of surgical treatment of liver echinococcosis, complicated by a breakthrough into the abdominal cavity, remains antiparasitic sanitation of the free abdominal cavity. ... Breakthrough of cysts into the abdominal cavity is one of the leading factors in the development of postoperative relapse [8]. The chance of developing a relapse with this cyst breakthrough into the abdominal cavity increases by 2.8 times [9]. No less severe, although less common (from 3.8 to 12.6%), complication of liver echinococcosis is the breakthrough of the cyst contents into the pleural cavity. In case of calcified echinococcal cysts of the liver (from 1.9 to 9%), the method of eliminating the residual cavity remains unresolved until now [2]. Aseptic necrosis and calcification of the cyst is not the worst outcome of the course of echinococcosis. But nevertheless, this complication, although it leads to the death of the parasite, does not cure the patient, since the mechanical effect of the calcified cyst on the liver tissue and its tubular structures remains, and when an infection (usually endogenous) enters, suppuration of the cyst often occurs [11]. In connection with the above, the high urgency of the issues of diagnosis and treatment of complicated forms of liver echinococcosis is obvious.

The aim of the work is to evaluate approaches to surgical treatment of complicated forms of liver echinococcosis.

Material and methods. For the period from 2018 to 2021, surgical treatment of liver echinococcosis was performed in 197 patients, of which 157 (79.7%) had primary echinococcosis, and 40 (20.3%) had recurrent echinococcosis. The age of the patients ranged from 19 to 81 years. There were 100 men (49.5%) and 102 women (50.5%). A single liver cyst was detected in 1 patient, multiple cysts - in 56. Postoperative complications were noted in 7 patients, 2 of which underwent relaparotomy due to bleeding and suppuration of the residual cavity. A retrospective analysis of the results of preoperative

examination, intraoperative ultrasound (US) and treatment of 46 (22.8%) patients with complicated echinococcosis - with liver damage or in combination with other localizations (in 8 patients - combined complications) was carried out. A single liver cyst was found in 36 patients, and multiple cysts in 10. Breakthrough of the cyst into adjacent organs was in 6 patients, of which 2 - a breakthrough into the pleural cavity, 2 - the cyst broke into the bile ducts, and 2 - into the greater omentum. All patients underwent surgery in our clinic. All patients underwent complex clinical, laboratory and instrumental examinations of the abdominal organs, including ultrasound, computed tomography (CT), multispiral computed tomography (MSCT), magnetic resonance imaging (MRI), endoscopic fibrogastroduodenoscopy (EFGDS). General clinical examination was carried out according to the standard method. Laboratory studies included general blood and urine analysis, determination of the level of total bilirubin and its fractions, total protein and its fractions, amylase, sugar, urea, creatinine, ALT, AST, thymol test, coagulogram.

Instrumental and laboratory diagnostics of parasitic liver disease is often a difficult task, which is associated with its asymptomatic course, especially in the early period of development, when the cyst is located deep in the organ. According to various studies, the sensitivity of ultrasound in detecting echinococcosis is 88–98%, and the specificity is 95–100%. Echinococcal cyst has several characteristic ultrasound signs. This is a hypoechoic (anechoic) formation, surrounded by a "chitinous membrane" - a hyperechoic structure, on the inner surface of which multiple hyperechoic inclusions are often determined, the so-called "hydatid sand", represented by the embryonic elements of echinococcus. Several ultrasound signs, pathogenic for an echinococcal cyst, have been identified: 1) the cyst itself is a hypoechoic (anechoic) formation; 2) chitinous membrane - a hyperechoic structure, often having a hypoechoic layer between the cuticular and germinal layers; 3) "hydatid sand" at the bottom of the cyst (embryonic elements of echinococcus); 4) fibrous capsule - hyperechoic rim, separated from the chitinous membrane by a hypoechoic layer, which is a lymphatic "gap"; 5) exfoliated chitinous membrane - a tape hyperechoic structure in the lumen of the cyst; daughter cysts are additional cystic inclusions [1].

Primary echinococcosis of the liver with complications was in 37 (80.4%) of 46 patients, with recurrent and residual echinococcal cyst of the liver - in 9 (19.6%). The most frequent complication was suppurative of the echinococcal cyst - in 17 (37%) cases, destruction of the fibrous capsule with the opening of bile fistulas in its lumen - in 16 (34.8%), calcification of the fibrous capsule - in 3 (6.5%), breakthrough into the free abdominal cavity - in 4.3%, combined complications - in 8 (17.4%), of which echinococcal cyst breakthrough into the biliary tract - in 2 patients and a breakthrough into the pleural cavity - in 2 patients.

Results. Traditional operations were performed on 46 patients. Of these, 26 (56.5%) underwent closed echinococcectomy, and 12 - with the use of pericystectomy. In 14 (30.4%) cases, a semi-closed echinococcectomy was performed, of which 2 - with the use of pericystectomy. In 6 patients the operation was radical, including in 1 - complete pericystectomy, in 4 - marginal liver resection and in 1 - complete removal of the cyst together with the fibrous capsule without opening it. In 2 patients there was a breakthrough of an echinococcal cyst into the bile ducts with the development of obstructive jaundice, cholangitis and fever. He performed echinococcectomy in combination with choledochotomy and drainage of the common bile duct along the Keru. Two patients had a cyst breakthrough into the right pleural cavity; they underwent lower lobectomy. 7 patients underwent simultaneous cholecystectomy, 1 - echinococcectomy from the ovary. According to the intraoperative assessment, the sizes of complicated echinococcal cysts varied from 1 to 20 cm (on average, 7 cm). Patients with multiple liver cysts during surgery used intraoperative ultrasound, comparing its data with the preoperative results of MSCT, especially with the intrahepatic location of echinococcal cysts, which were localized in the right lobe of the liver and had a diameter of less than 5 cm All patients

with the aim of eliminating the remaining protoscolices and accephalocysts carried out devastation measures. The residual cavity was treated with 70% alcohol and 5% iodine tincture. In 14 patients, a PVC drainage tube was inserted into the residual cavity through a counteropening. Detected bile fistulas with sizes from 0.1 to 0.5 cm were sutured with capron thread. Residual cavities were washed through drainage tubes with Dekasan solution with an exposure of 3-5 min. The drains were removed 15–20 days after the control USS. In the postoperative period, 8 patients showed intoxication phenomena in the form of hyperthermia, leukocytosis, which were stopped by symptomatic therapy. Three patients had exudative pleurisy, they underwent pleural puncture with the administration of antibiotics and breathing exercises with a positive effect. One patient, due to suppuration of the residual cavity, underwent relaparotomy, sanitation of the residual cavity with drainage. Subsequently, fistulography was performed, the drainage was removed. , drainage is removed. 34 (74.5%) of 46 patients underwent operations with the maximum possible removal of the free part of the fibrous capsule. During the removal of the echinococcal cyst, 8 patients underwent various options for the marginal resection of the liver. In 1 of them, typical liver resection was combined with partial pericystectomy from the other lobe of the liver; in 1, complete removal of the cyst together with the fibrous capsule without opening it. 34 (74.5%) of 46 patients underwent operations with the maximum possible removal of the free part of the fibrous capsule. During the removal of the echinococcal cyst, 8 patients underwent various options for the marginal resection of the liver. In 1 of them, typical liver resection was combined with partial pericystectomy from the other lobe of the liver; in 1, complete removal of the cyst together with the fibrous capsule without opening it. Two patients had a breakthrough of an echinococcal cyst into the bile ducts with the development of obstructive jaundice, cholangitis and fever. He performed echinococectomy in combination with choledochotomy and drainage of the common bile duct along the Keru. Two patients had a cyst breakthrough into the right pleural cavity; they underwent lower lobectomy. 7 patients underwent simultaneous cholecystectomy, 1 - echinococectomy from the ovary. According to the intraoperative assessment, the sizes of complicated echinococcal cysts varied from 1 to 20 cm (on average, 7 cm). In patients with multiple liver cysts during surgery, intraoperative ultrasound was used, comparing its data with the preoperative results of MSCT, especially with the intrahepatic location of echinococcal cysts, which were localized in the right lobe of the liver and had a diameter of less than 5 cm.

In order to eliminate the remaining protoscolices and accephalocysts, all patients underwent devastation measures. The residual cavity was treated with 70% alcohol and 5% iodine tincture. In 14 patients, a PVC drainage tube was inserted into the residual cavity through a counteropening. Detected bile fistulas with sizes from 0.1 to 0.5 cm were sutured with capron thread. Residual cavities were washed through drainage tubes with Dekasan solution with an exposure of 3-5 min. The drains were removed 15–20 days after the control USS.

In the postoperative period, 8 patients showed intoxication phenomena in the form of hyperthermia, leukocytosis, which were stopped by symptomatic therapy. Three patients had exudative pleurisy, they underwent pleural puncture with the administration of antibiotics and breathing exercises with a positive effect.

One patient, due to suppuration of the residual cavity, underwent relaparotomy, sanitation of the residual cavity with drainage. Subsequently, fistulography was performed, the drainage was removed. 34 (74.5%) of 46 patients underwent operations with the maximum possible removal of the free part of the fibrous capsule. During the removal of the echinococcal cyst, 8 patients underwent various options for the marginal resection of the liver. In 1 of them, typical liver resection was combined with partial pericystectomy from another lobe of the liver. Signs of infection of one or several cysts by the nature of the contents were noted in 20 (18.2%) patients, suppuration of the cyst cavity - in 15 (13.6%). Taking into account the prevalence of extrahepatic lesions, the operation was of a combined nature - the

elimination of cysts in the liver and, as a rule, echinococectomy of the abdominal cysts. Combined surgical interventions were performed in 15 patients. In contrast to the breakthrough with seeding of the abdominal cavity and the pelvic cavity with the subsequent formation of a large number of echinococcal cysts of various diameters, all other considered combined lesions were of the nature of hematogenous invasion of the parasite. Most patients with concomitant pulmonary involvement were operated on with the participation of a thoracic surgeon in the thoracic department as the first or second stage of treatment. In 2 patients, interventions on the liver and lungs were performed simultaneously. Most patients with concomitant pulmonary involvement were operated on with the participation of a thoracic surgeon in the thoracic department as the first or second stage of treatment. In 2 patients, interventions on the liver and lungs were performed simultaneously. The defeat of the spleen with echinococcosis required its removal in 2 patients due to its large size and intraparenchymal location. There were no lethal outcomes. Various types of specific and nonspecific postoperative complications were observed in 18 (16.4%) patients. All patients in satisfactory condition were discharged for outpatient treatment.

Discussion. Reoperations for patients who had previously been operated on in other institutions, according to the basic principles of surgical approaches, were similar to the primary ones, but differed in technical difficulties, which was associated with the adhesive process in the liver, abdominal cavity and pelvic cavity. Surgical treatment for most of them consisted in echinococectomy from the liver and, if possible, by the method of ideal echinococectomy from the abdominal cavity. The majority of patients had an uncomplicated postoperative course. The most common suppuration of echinococcal cysts, and breakthroughs of the cyst into the bile ducts, abdominal and pleural cavities were less common. In those patients, in whom the operation was performed in specialized regional institutions, complications were rare. Generally, patients with complicated recurrent echinococcosis of the liver were operated on in regional hospitals. Moreover, most of these patients practically did not undergo full-fledged devastation therapy. Sometimes several members from the same family turned to us about echinococcosis, which indicates the need for dispensary examination of all family members. Moreover, most of these patients practically did not undergo full-fledged devastation therapy. Sometimes several members from the same family turned to us about echinococcosis, which indicates the need for dispensary examination of all family members.

Conclusions.

1. Among the complicated forms of echinococcosis of the liver, the most common is suppuration of the cyst. Much less often, there is a breakthrough of the cyst into the bile ducts, abdominal and pleural cavities.
2. Patients with complicated liver echinococcosis should be operated in a specialized institution with modern diagnostic and therapeutic equipment, highly qualified specialists. With multiple cysts and small cysts, intraoperative instrumental diagnostics using ultrasound sensors is required.
3. In order to prevent the recurrence of the disease, a full-fledged devastation therapy is required.
4. It is advisable to conduct a dispensary examination of family members of patients operated on for echinococcosis.

Literature

1. Камповая Полевая Е.Б., Чистяков С.С. Клиническая маммология. Современное состояние проблемы. – М. : ГЭОТАР Медиа, 2006. – 512 с.

2. Корженкова Г.П. Комплексная рентгеносонографическая диагностика заболеваний молочной железы. – М. : Стром,2004. – 128 с.
3. Axmadova Maftuna Amin qizi .Ko'krak bezi-o'ziga xos intrakranial a'zo//JOURNAL OF ADVANCED REASERCH AND STABILITY (JARS)//Volume:01.05/2021.,171-180 bet.
4. A.T.Cho'liyev.,U.S.Mamedov.,M.A.Akhmadova.,R.R.Navro'zov.,D.F.Narziyeva Diagnostics of exinococcosis in youth at the modern stage./Journal of Natural Remedies.2021,№1(1).-P37-40
5. Guljamol Fazliddinonvna Makhmudova, Adkhambek Uygunovich Nurboboyev. Treatment of mechanical jaundice via the modern way// Scientific progress, 2021.-№6.-P.530-537
6. Makhmudova G.F. Age-related clinical, anatomical and morphological features of malignant tumors of the cervix// Journal of science and technology//2021.-P.-475-480
7. Абдулхакимов Шерзод Алишер огли. Сексуальная восстановление пациентов после контактной лучевой терапии по поводу ограниченного рака простаты. – 2021. - Central asian journal of medical and natural sciences. – 2021. - Vol.2 (5). – P.449-455
8. Махмудова Г. Ф., Темирова, Д. В., &Баротова, Ш. Б. (2021). Бачадон бўйни хавфли ўсмаларининг ёшга хосхусусиятлари//Academicresearchineducationalsciences // 2(5).-Б.-186-196. <https://doi.org/10.24411/2181-1385-202100871>
9. Махмудова G.F.,Soxibova Z.R., Mamedov U.S., Nurboboyev A.U. Fertil va keksa yoshli ayollarda bachadon bo'yni xavfli o'smalari tahlili (Buxoro viloyatida)//Oriental Renaissance: Innovative, educational, natural and social sciences//2021.-V 8.-B. 175-184.
10. Nurboboyev A.U., Makhmudova G.F. Miniinvazive approach in the complex treatment of tumor and stone etiology of mechanical jaundice// International journal on Orange technology// Vol 3. Issue 9. Sep.2021.-P. 85-90
11. М.А. Ахмадова, А.Т.,Сохибова З.Р., Д.К. Худойбердиев.,Ж.Р.Нуров Диагностика эхинококкоза у молодёжи на современном этапе./Тиббиётда янги кун 2019 й.3(27)- стр 54-56
12. М.А. Ахмадова, А.Т. Чўлиев, Ж.Р. Нуров, Д.К. ХудойбердиевЛучеваядиагностикаэхинококкозапечени./Биологияватиббиётмуаммолари.2019,№4.2(115)с.20-25
13. Сохибова З.Р.,Ахмадова М.А. Комплексная диагностика и хирургическое и хирургическое лечение осложненных форм эхинококкоза печени./Oriental Renaissance: Innovative, Educational, natural and social sciences/2021й -стр 203-212.
14. НарзиеваД.Ф.ЗначениеИммуногистохимических маркеров при метастазировании рака молочной железы в легкие.// Oriental Renaissance: Innovtive, educational, natural and social sciences.// -2021 Vol.1-C.170-175
15. Xalikova Feruza. Current concepts of breast cancer risk factors//International journal of philosophical studies and social sciences//2021.- Vol 1.-P.57-66.
16. Z.R. Sokhibova, M.R. Turdiyev, (2021). Some Features Of Laboratory Indicators Of Micro And Macro-Elementary Condition Of The Organism Of Female Age Women Innormality And In Iron Deficiency. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3(02), MO-145.

17. Mamedov U.S., Pulatova D.SH. The Results of Cancer Treatment of the Oral Cavity Tumors in //the Republic of Uzbekistan European journal of Pharmaceutical and Medical Research. -2019. - 6(9). - P. 326-329.
18. Narziyeva D.F., Jonibekov J.J.; Morphological features of tumor in different treatment options for patients with locally advanced breast cancer // Middle European scientific bulletin. Volume 7-2020-Dec. – P. 105-10
19. Nurov Jamshid Raxmatovich. Morphofunctional characters of the greater omentum // International Journal of Discoveries and Innovations in Applied Sciences. – 2021. – Vol. 1(5). – P. 130-134.
20. Nurov J.R., Khalikova F.S. Long-term results of surgical treatment patients with stomach cancer // Вестник науки и образования. – 2020. – №23-2(101). – С. 85-89.
21. R. R. Navruzov. Morphological and morphometric changes of the stomach layer of one monthly white rats // Journal For Innovative Development in Pharmaceutical and Technical Science (JIDPTS). Volume:4, Issue:5, May:2021 pp :(7-10)
22. R. R. Navruzov. Lymphothorp therapy in the complex of treatment of purulent inflammatory diseases of the hand in outpatient conditions // New day in medicine 30.2020
23. Гафур Нормуродович Саидов, Учкун Гафурович Абдукаримов, Гулжамол Фазлиддиновна Махмудова. Эпидемиологические показатели первично-множественных опухолей (обзор литературы)// Биология и интегративная медицина// 2019№ 11 (39).-С.
24. Нуров Ж.Р. Послеоперационная аналитика раннего периода хирургического лечения злокачественной опухоли желудка // Oriental Renaissance: Innovative, educational, natural and social sciences. – 2021. – Vol. 1(8). – P. 185-191.
25. Rakhmonovna, S. Z., & Sharipovna, A. N. (2020). Characteristics of exchange of essential microelements of copper and zinc in healthy fertilized women and women with combined copper and zinc deficiency state. *European Journal of Molecular & Clinical Medicine*, 7(1), 3332-3335.
26. Nurov Jamshid Raxmatovich, Narziyeva Dilnoza Fakhriddinovna. The Significance of Immunohistochemical Markers in the Treatment of Breast Cancer // International journal on orange technology. – 2021. – Vol. 03(9). – P. 69-72.
27. Nurov Jamshid Raxmatovich, Ahmadova Maftuna Amin qizi. Features of Anatomy of the Greater Omentum // International journal on orange technology. – 2021. – Vol. 03(9). – P. 66-68.
28. Nurov Jamshid Raxmatovich, Narziyeva Dilnoza Fakhriddinovna. Immediate Results of Surgical Treatment of Gastric Cancer // International journal on orange technology. – 2021. – Vol. 03(9). – P. 62-65.
29. Sokhibova, Z. R., & Turdiyev, M. R. (2021). Some Features Of Laboratory Indicators Of Micro And Macro-Elementary Condition Of The Organism Of Female Age Women Innormality And In Iron Deficiency. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3(02), 140-145.
30. Khalikova Feruza Sharofovna, Abdullaev Khabibullo Narzullayevich. Early Diagnosis and Treatment of Gastric Cancer in Modern Oncology // Journal of Innovations in Social Sciences Volume: 01 Issue: 04 | 2021 –С. 46-50.
31. Mamedov U.S, Khalikova F. Sh. Advantages of Magnetic Resonance Computer Tomography in the Diagnosis of Thyroid Cancer //Pindus Journal of Culture, Literature, and ELT. – 2021. – Т. 9. – С. 80-84.

32. Axmedov Farxod Xakimovich// CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES// Морфологические Изменения Внутри И Внепеченочных Протоков, И Сфинктеров У Больных С Желчекаменной Болезнью, Постхолецистэктомии. Volume: 02 Issue: 05 | Sep-Oct 2021
33. Xudoyberdiyev Dilshod Karimovich CHARACTERISTICS OF MORPHOMETRIC PARAMETERS OF THE WHITE RAT'S STOMACH IN THE EARLY POSTNATAL PERIOD// Тиббиётда янги кун// 2 (34/3) 2021 С-17-23
34. Xudoyberdiyev Dilshod Karimovich ОҚ КАЛАМУШЛАР ЙЎҒОН ИЧАГИ СУРУНКАЛИ НУР КАСАЛЛИГИДА ВА БИОСТИМУЛЯТОРЛАР ТАЪСИРИДАН КЕЙИНГИ ҚИЁСИЙ ХУСУСИЯТЛАРИ// Биология ва тиббиёт муаммолари// 2021, №3 (128)
35. Xudoyberdiyev Dilshod Karimovich МОРФОЛОГИЧЕСКИЕ И МОРФОМЕТРИЧЕСКИЕ ИЗМЕНЕНИЯ СТЕНКИ ЖЕЛУДКА ОДНОМЕСЯЧНЫХ БЕЛЫХ КРЫС// INTERDISCIPLINARY RESEARCH: SCIENTIFIC HORIZONS AND PERSPECTIVES International Scientific and Theoretical Conference// March 12, 2021 С 57-61

