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Abstract

Nowadays in Kazakhstan there is an active development of organ transplantation, particularly kidney transplantation. The main purpose is not only to save as much lives as possible but also improve the survival rates of graft. In this way, now we are investigating personalization and rationalization of immunosuppressive treatment. In our country as in whole world genetic factors, determinating long-term graft survival, represent a great relevancy in transplantation. According to the results of clinical trial, there is a strict association between CYP3A5 (cytochrome P450) genetic polymorphism and tacrolimus pharmacokinetics. The determination of genetic polymorphism of CYP 3A5 gives us the opportunity to predefine the changes in blood concentrations of tacrolimus, better control of immunosuppressive therapy, that will positively affect the long-term graft survival.

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Keywords
tacrolimus, kidney transplantation, genetic polymorphism, immunosuppressive.

CYP3A5 генетикалық полиморфизмінің бүйрек реципиенттеріндегі такролимус фармакокинетикасына әсері

Баймаханов Б.Б., Чорманов А.Т., Ибрагимов Р.П., Мададов И.К., Дабылтаева К.С., Сырымов Ж.М.
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Аңдатпа

Қазіргі танда Қазақстанда орган трансплантациясы, оның ішінде бүйрек трансплантациясы қарқынды түрде дамып келе жатыр. Негізгі мақсат көптеген науқастардың өмірін сақтап қалу ғана емес, трансплантаттің тірі қалу көрсеткіштерін жақсарту. Бұл жолда біз иммуносупрессивті емінің персонализация және рационализациясын зерттеп жатырмыз. Біздің мемлекетімізде және бүкіл дүниеде де трансплантаттың ұзақ мерзімде тірі қалуын анықтайтын генетикалық факторлар, трансплантологияда үлкен қызығушылық тудырып жатыр. Жасалған зерттеулердің нәтижелеі бойынша CYP3A5 (P450 цитохромы) генетическалық полиморфизмімен такролимустың фармакокинетикасы арасында нақты байланыс бар. CYP3A5 генетическалық полиморфизмін анықтау такролимус концентрациясының қандағы өзгерістерін алдын ала білу, иммуносупрессивті емді жақсырақ бақылау мүмкіншілігін тудырады және бұл трансплантаттың ұзақ мерзімде тірі қалу көрсеткштерін жақсартады.

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Түйін сөздер
такролимус, трансплантация, бүйрек, генетическалық полиморфизм, иммуносупрессия.

Влияние генетического полиморфизма CYP3A5 на фармакокинетику такролимуса у реципиентов почки

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Аннотация

На сегодняшний день в Казахстане идёт активное развитие трансплантации органов, в частности, пересадка почки. Главной целью является не только спасти как можно больше жизней, но и улучшить показатели выживаемости трансплантата. В этом направлении сегодня мы исследуем персонализацию и рационализацию иммуносупрессивно терапии. В нашей стране, как и во всем мире генетические факторы, детерминирующие выживаемость трансплантата в отдаленном периоде, предсталяет собой огромный интерес в трансплантологии. Согласно проведенным результатам имеется четкая связь между генетическим полиморфизмом CYP3A5 (цитохром P450) с фармакокинетикой такролимуса. Определение генетического полиморфизмам CYP3A5 позволит предопределить изменения концентрации такролимуса в крови, лучше контролировать иммуносупрессивную терапию, что положительно скажется на выживаемости трансплантата в отдаленном периоде.

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Ключевые слова
такролимус, трансплантация, генетический полиморфизм, иммуносупрессия.

Introduction

Nowadays kidney transplantation is the most preferable treatment option of terminal chronic kidney disease. The main advantage of kidney transplantation is that graft totally replaces the function of diseased kidney. Improvement of the quality of life of patients and return to their daily activities is another great advantage of this option.

With the improvement of donor selection, surgical technique and rational immunosuppressive treatment rates of short-term graft survival great increased. 1 – year graft survival from deceased donor is 95% whereas from living related donor is 98%. In Kazakhstan 1-year graft survival from living related donor is 91%. Despite these high indicators of 1-year graft survival, 5-year graft survival rates remain to be low. For example, in USA 5-year graft survival from decease donor is up to 80%, whereas from living donor is form 82 to 90 %, respectively. Thus, despite the improvement of short-term graft survival rates, long-term graft survival rates remain to be low [1].

So what lies under the graft loss in long-term period? It is thought to be that the main reason of graft loss in long-term period is so called graft nephropathy. The reasons of graft nephropathy are immunologic factors and, probably, genetic factors.

Recently there are many transplant centers where genetic factors and their influence of kidney graft function are investigated. In this way investigation of CYP3A5 genetic polymorphism, as a regulatory factor of tacrolimus pharmacokinetics is being more relevant.

Material and methods

We conducted a clinical trial, where we include 80 kidney recipients. Of them, 47 were male and 33 female patients. Mean age of patients was 43ұ4.1 years. All patients had been taking tacrolimus 0.1 mg/kg initially. Dose adjustment was by 1.0 mg a day up to target concentration (10-12 ng/ml). All patients were studied for CYP3A5 genetic polymorphism.

Results

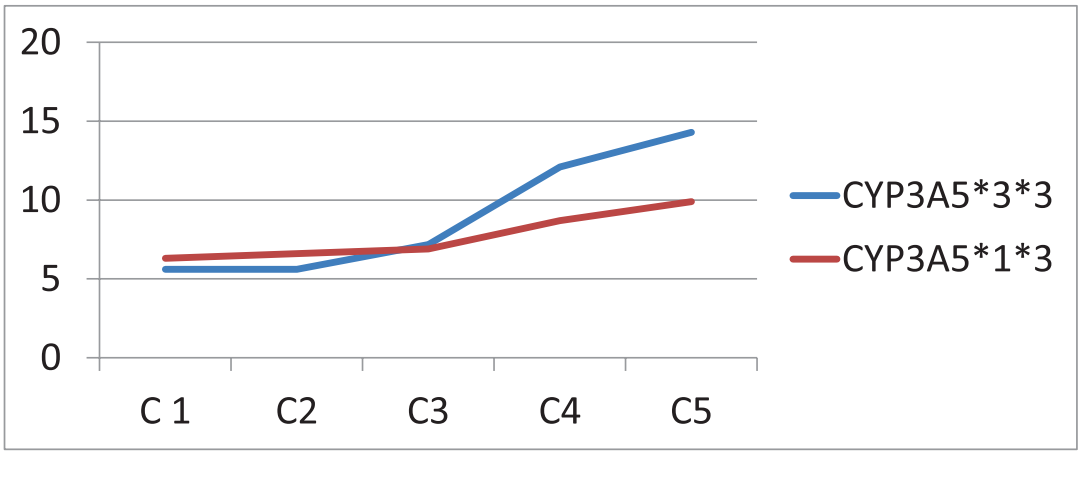
According to the received results 77 % of patients were CYP3A5*3 *3 homozygotes and the rest 33% were CYP3A5*1 *3 heterozygotes. Thus, first were classified as 1 group and the last as 2 group. At dose of 0.1 mg/kg in patients of both groups showed similar increase of tacrolimus level initially, but starting from the 2 week there was seen rapid increase of tacrolimus level in patients from the 1 group and dose adjustment was problematic due unpredictable course of concentration (Tab. 1). In patients from the 2 group tacrolimus concentration increased gradually without peaks and approximately at 2 weeks in postoperative period target concentration was reached. In contrast in patients form 1 group, at 2 weeks postoperatively we continued dose adjustment due to unpredictable rises and rapid falls of tacrolimus concentration.

Discussion

Fan B et al. studied pharmacokinetics of tacrolimus in patients taking prograf and advagraf [2]. 106 kidney transplant patients were included in this study. 61 of them had been taking prograf and 45 – advagraf. In 40% of patients there was low expression CYP3A5. In these patients target concentration of tacrolimus was reached at 21 day in advagraf group and 7 days in prograf group. 1-year graft survival was same in both groups. Infection was seen more frequently in patients taking advagraf.

Cheng et al. [3] studied 35 kidney recipients. Patients were divided in to 3 groups. First group were patients homozygote carriers of CYP3A5 (*1*1), the second group homozygote carriers of CYP3A5 (*3*3) and 3 group of patients heterozygotes of CYP3A5 (*1*3). Dose adjustment was performed after 7

Fig. 1.
Changes of tacrolimus concentration with CYP 3A5 genetic polymorphism



days, 1, 6 and 12 months postoperatively. Patients from the 1 group need high doses of tacrolimus in order to reach target concentration. There was high risk of graft rejection reaction in 1 group.

Similar results were received in clinical trial conducted by Quteineh L et al. [4] 136 kidney recipients were studied. As was in previous investigation patients with CYP3A5*1*1 genotype need higher doses of tacrolimus to reach the target concentration. Interestingly the situation remained the same for subsequent 6 and 12 months. CYP3A5 genetic polymorphism was not associated with tacrolimus nephrotoxicity but influenced the dose adjustment. Authors suggest preoperative evaluation of CYP3A5 genetic polymorphism, especially CYP3A5*1 carries.

Zhang X et al. [5] studied 118 kidney recipients. In CYP3A5*1*1 and *1*3 carriers tacrolimus concentration remained low even after dose adjustment in contrast to CYP3A5*3*3 carriers. For instance, half of patients with CYP3A5*1 after 7 days from initiation of immunosuppression tacrlimus was less than 5 ng/ml, whereas in CYP3A5*3 carriers tacrolimus concentration was more than 20 ng/ml. Thus this genetic factor is one of most important regulators of rational immunosuppressive treatment.

Conclusion

It is obvious from received results, that genetic polymorphism of CYP3A5 influences tacrolimus blood concentrations, that appears to be key factor in immunesupression [6]. Even in rational choice of dose of immunosuppressive agent, genetic factor must be considered as well. In order to improve long-term graft survival rates it is important to maintain therapeutic concentration of tacrolimus in blood. In this way in might important to determine the CYP3A5 genetic polymorphism preoperatively [7], as one of approved genetic determinants of graft survival. It is also important for the correct selection of initial dose.

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THE ROLE AND POSSIBILITIES OF IMMUNOFAN IN PURULENT-DESTRUCTIVE INFLAMMATION OF THE GALLBLADDER IN ACUTE CALCULOUS CHOLECYSTITIS IN THE PERIOPERATIVE PERIOD

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Abstract

Timely urgent cholecystectomy in patients with ACC and ADCC, taking into account the possibility of using minimally invasive techniques using Immunofan, strengthens the immune system and significantly improves the results of surgical treatment. In the period from 2017 to 2018, 56 patients with various forms of acute calculous cholecystitis aged 15 to 86 years were hospitalized at the surgical clinic of the Azerbaijan Medical University. All 56 patients were divided into two groups: IA In the control group I entered 10 patients. II-In the main group, patients were divided into several subgroups. In subgroup A, 9 patients were operated on an emergency basis, for 5-6 hours with a diagnosis of destructive cholecystitis diffuse peritonitis. In subgroup B - 17 patients, after traditional preoperative preparation, with the addition of immunotherapy (immunofan), patients were operated on in an emergency order, within 12-48 hours. In the S-21 patients, perioperative therapy was carried out using immunotherapy (immunofan). All patients were examined according to the standard scheme: clinical examination, instrumental studies, laboratory tests.

Keywords
Immunofan, immunotherapy, acute calculous cholecystitis, acute destructive calculous cholecystitis, minimally invasive methods

Ота кезіндегі жіті калькулезді холецистит ауруына шалдыққанда өт қабының іріңді-деструктивтік қабынуы кезіндегі иммунофанның рөлі мен мүмкіндіктері

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Аңдатпа

Иммунофанды қолдануымен азинвазивті әдістерді пайдалану мүмкіндіктерін есепке алуымен жіті калькулезді холецистит (ЖКХ) мен жіті деструктивтік калькулезді холецистит (ЖДКХ) ауруларына шалдыққан ауруларды дер кезінде жедел холецистэктомия отасын жасау, иммунитетін күшейтеді және де хирургиялық емдеудің нәтижелерін айтарлықтай жақсартады. 2017 жылдан бастап 2018 жылға дейінгі мерзімінде Әзірбайжан медицина университетіне жас мөлшерлері 15 жастан 86 жасқа дейін жіті калькулезді холецистит ауруының түрлі нысандарымен 46 пациент ауруханаға жатқызылды. Барлық 46 пациент екі топқа бөлінде: I-А бақылау тобына 10 пациент кірді. II-В негізгі тобындағы аурулар бірнеше қосалқы топтарына бөлінді. А қосалқы тобындағы 8 ауруға жедел түрде ота жасалды, «деструктивтік холецистит диффузды перитонит» деген диагнозымен 5-6 сағат ішінде шұғыл түрде ота жасалған. Б қосалқы тобында дәстүрлі отаға дейінгі дайындықтан кейін – 12 ауруға, иммунотерапия (иммунофан) арқылы қосымша толықтыруымен пациенттеге жедел түрде 12-48 сағаттай ота жасалды. С қосалқы тобының -16 - ауруына иммунотерапия (иммунофан) арқылы ем жасалған. Барлық пациенте стандарты сызба бойынша тексерілген: клиникалық қарап тексеру, құралдар арқылы тексеру, зертханалық зерттеулер.

Түйін сөздер
иммунофан, иммунотерапия, жіті калькулезді холецистит (ЖКХ), жіті деструктивтік калькулезді холецистит (ЖДКХ), азинвазивті әдістер.

Роль и возможности иммунофана в гнойно-деструктивном воспалении желчного пузыря при остром калькулезном холецистите в периоперационном периоде

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Аннотация

Своевременная срочная холецистэктомия у больных с ОКХ и ОДКХ с учетом возможности применения малоинвазивных методик с применением Иммунофана усиливает иммунитет и заметно улучшает результаты хирургического лечения. В период с 2017 по 2018 годы в хирургическую клинику Азербайджанского медицинского университета были госпитализированы 56 больных с различными формами острого калькулезного холецистита в возрасте от 15 до 86 лет. Все 56 пациентов были разделены на две группы: I-А в контрольную группу я вошли 10 пациентов. II-В основной группе, больные были подразделены на несколько подгрупп. В подгруппе А 9 больных были оперированы в экстренном порядке, в течение 5-6 часов с диагнозом деструктивный холецистит диффузный перитонит.В подгруппе Б- 17 больных, после традиционной предоперационной подготовки, с дополнением иммунотерапии(иммунофана), пациенты были оперированы в экстренном порядке, в течение12-48часов. В подгруппе С-21-больным проводили в периоперационном периоде терапию с использованием иммунотерапии (иммунофана). Все пациенты были обследованы по стандартной схеме: клинический осмотр, инструментальные исследования, лабораторные исследования.

Ключевые слова
Иммунофан, иммунотерапия, Острый калькулезный холецистит, острый деструктивный калькулезный холецистит малоинвазивные методы

The relevance of the problem. Currently, acute cholecystitis is one of the most common urgent diseases in surgery. One of the controversial issues is the question of rational surgical tactics, the choice of the timing of the operation in acute cholecystitis. Despite a significant improvement in the results of treatment, the mortality after urgent operations for acute cholecystitis remains several times higher than with planned and delayed surgical interventions, varies in different institutions within 2-12%, has no tendency to decrease and reaches during operations on the height of the attack 14-15%, and in the elderly patients - 20%, increasing sharply with age. During urgent operations in patients older than 80 years, postoperative mortality exceeds 40-50%, which makes these operations extremely risky. At the same time, planned and delayed operations performed on the background of the calmed down acute inflammatory process, after a comprehensive examination and preparation of the patients, give significantly better results. Postoperative mortality in such cases reaches in individual surgeons 0.5–1% [Borodach V.A. et al., 2005].

Most surgeons are now in favor of active surgical tactics, which is based on the desire to remove the purulent-inflammatory focus in the early stages after hospitalization of patients (within 24-72 hours) and thus prevent the development of dangerous complications - perforation of the gallbladder wall, peritonitis, cholangitis, migration of concrements to choledoch [Yermolov AC 2004, Lubsky A.C., 2005; Alobaidi M. et al., 2005].

Surgeons who prone to conservative and expectant tactics, as the main argument put forward data on significantly lower mortality after operations performed in the “cold” period, compared with urgent operations [Kuliev Sh.B., Isaev G.B., 1990]. According to M.M. Tagiyev (1988) mortality with delayed operations was 3 times lower,

Some authors emphasize the importance of using antibiotics to relieve an attack [Malyuga V.Yu., 2000; Tambyraja AL. et al., 2004]. But there is another opinion: none of the antibiotic administration regime before surgery does not completely eliminate the infection, even if an active against bile microflora drug is used.

Materials and research methods. In the period from 2017 to 2018, 56 patients with various forms of acute calculous cholecystitis aged from 15 to 86 years were hospitalized at the surgical clinic of the Azerbaijan Medical University. All 46 patients were divided into two groups:

I - in the control group entered 10 patients. II - in the main group, patients were divided into several subgroups.

In subgroup A - 9 patients were urgently operated, for 5-6 hours with a diagnosis of destructive cholecystitis, diffuse peritonitis.

In subgroup B - 16 patients, after the traditional preoperative preparation, with the addition of immunotherapy (immunofan), the patients were operated urgently within 12-48 hours

In subgroup C - 21 patients, perioperative therapy was carried out providing immunotherapy

(immunofan). All patients were examined according to the standard scheme: clinical examination, instrumental examinations (R-scopy of the chest, ultrasound diagnostics of abdominal organs, electrocardiography, external respiration function), laboratory tests (complete blood and urine analysis, biochemical blood test: bilirubin level, ALaT, ASaT, glucose, total protein.

Duration of the disease varied from 5 hours to 7 or more days. Of all patients with acute calculous cholecystitis, 9 (16.1%) were hospitalized up to 6 hours from the onset of the disease. In 16 (28.6%) patients, the duration of the disease was 6-24 hours, and 21 (37.5%) patients were admitted to the surgical department after 24 hours from the onset of acute destructive cholecystitis.

37 (66.1) patients in the main subgroups A and B with ACCh and ADCCh in the preoperative and postoperative period were given immunofan according to our methodology, and 10 (17.9) patients in the control group were treated with the traditional method. Blood of the patients was studied: in the preoperative, postoperative period and before the discharging. The following immunological parameters were studied: the absolute content of blood leukocytes, the relative and absolute blood levels of the lymphocytes and their subpopulations: T-lymphocytes, T-helper cells, T-cytotoxic cells, MDS-cells, B-lymphocytes, activated T-lymphocytes, T-helper and T-cytotoxic cells ratio, absolute levels of immunoglobulins A, M, O, phagocytic activity of leukocytes (PAL), phagocytic index (PI), phagocytosis completion index (PCI), IgA - Immunoglobulin A, IgG - Immunoglobulin G, IgM - Immunoglobulin M, NBT test (spontaneous and stimulated), NBT load Index, circulating immune complexes (CIC), the relative and absolute blood levels of monocytes, eosinophils, stab and segmented leukocytes. These immunological indicators in the comparison groups before the operation are shown in table 1.

We analyzed in detail the immunological indicators in patients of the main and control groups before the operation, where: absolute leukocyte count, absolute and relative lymphocyte count, absolute monocyte, eosinophil, band and segmented leukocytes counts, absolute blood levels of T-lymphocytes, T-helpers, B-lymphocytes and phagocytosis completeness index differed significantly.

Table 2 shows the ratio of the absolute levels of leukocytes among patients (ACCh) and (ADCCh). As can be seen from table 2, the average level of blood leukocytes before the operation in ACCh is significantly and reliably lower than in ADCCh ($p < 0.05$).

In the majority of patients with the ACCh-control group, the level of blood leukocytes varied within the normal range, while in all patients with ADCCh, the level of leukocytes was elevated.

Taking into account the data in Table 2, it can be assumed that the level of blood leukocytes in patients in the control group with ACCh is an additional criterion for the risk of the development of ADCCh. I.e. if patients with acute cholecystitis have an increased level of blood leukocytes, there is a risk of developing an acute form of destructive cholecystitis in these patients. In patients with a usual ACCh course, (the control group) blood lymphocytes (absolute and relative) were at the upper limits of the norm or elevated, which corresponds to modern ideas about the response of the immune system to the inflammatory process in the body, because the normally functioning immune system responds with lymphocytosis on acute destructive inflammation in the body, which we observed in patients with ADCCh. And the presence of a reduced level of absolute and relative content of lymphocytes in the main group confirms the assumption that patients with ACCh have a weakened reaction (lymphocytopenia) of the immune system to destructive inflammation.

Table 1.
Immunological indicators in the comparison groups

Immunological indicators (Normal value)	Groups of patients	
	ACCh control group (n=10)	ADCCh + Immunofan (n=37)
Leukocytes (4600-7100 cells/μl)	6200±1170	9578±1471
Lymphocytes (1600-2400 cells/μl)	1058±44,7	1599±79,4
T-lymphocytes (1100-1900 cells/μl)	Г114±57,6	970,3±42,8
B-lymphocytes (200-600 cells/μl)	1’73,6±120,6	164,4±82,49
Monocytes (450-600 cells/μl)	400,2±28,4	579,9±37,4
Eosinophils (120-180 cells/μl)	108,9±6,7	142,29±15,09
Band cells (500-1100 cells/μl)	469±24	901±51,4
Segmented cells (5000-6000 cells/μl)	3805±109	5462±155,5
ESR (2-25 mm/h)	18,95±6,7	19,7±4,9
T-helpers (700-1400 cells/μl)	609,2± 30,8	956,3±56,3

Table 2.
Description in the text

Indicators	Groups of patients	
	ACCh control group (n=10)	ADCCh + Immunofan (n=47)
Leukocytes (cells/μl)	6377±1226	9578±1571

In this regard, in the preoperative period, we prescribe Immunofan according to our method, which enhances the weakened response of the immune system to the flowing purulent-destructive inflammation in the body.

Considering that patients in the main group have a significantly lower level of absolute and relative blood lymphocyte count before surgery, due to the effect of Immunofan, than in control group, when studying lymphocyte subclasses, we also found lower T- and B- lymphocyte counts in blood of the patients with acute destructive cholecystitis. The T-lymphocyte counts in the comparison groups before the operation in patients with the ACCh-control group showed that the absolute content of T-lymphocytes in the blood before the operation was below the norm, and in the main group the absolute content of T-lymphocytes in the blood was increased or at the upper limit of the norm. Since T-lymphocytes perform very important functions in the body: effector and regulatory, their lack in blood can lead to a decrease in the specific cytotoxicity of T-lymphocytes and dysregulation of B-lymphocyte activity, as well as neutrophils and macrophages that carry out phagocytosis of microorganisms. All of the above may be a prerequisite for defective functioning of the immune system: the disruption of T-lymphocytes and phagocytes may lead to the deposition of microorganisms in the focus of inflammation (gallbladder) and the relief of destructive inflammation.

Based on the data, it can be assumed that the presence of reduced absolute levels of blood T-lymphocytes in a patient with acute cholecystitis may increase the risk of developing ACCh, the appointment of an immunofan according to the proposed method can be used as a criterion (together with other indicators) in complex diagnostics and prediction of ACCh

The content of T-helpers in patients with ACCh-control group before the operation was reduced in a similar way, which indicates a weakened response of the immune system to destructive inflammation. The content of T-helpers in patients of the main group was within the normal range or moderately elevated, which corresponds to the ideas about the dynamics of the immune status during the developing inflammatory process in the body. The reduced content of T-helper cells in patients with ACCh is probably the result of a general decrease in blood lymphocytes in these patients. Such inhibition of the cellular element of the immune system may possibly affect the character of the clinical course of destructive inflammation in the body.3.3

Emergency surgery is indicated to patients with acute calculous cholecystitis with obvious clinical signs of obstruction and destruction, purulent intoxication, cholangitis and peritonitis in the shortest time since hospitalization after sufficient preoperative preparation. The diagnosis can be verified by ultrasound or laparoscopy according to indications. In the absence of indications for emergency surgery, treatment begins with a complex of conservative therapy. The diagnosis can be specified basing on the clinical data and the results of ultrasound. The clinical picture of acute calculous cholecystitis is characterized by the presence of a typical and pronounced pain attack, an increased painful gallbladder, local muscle tension, increased body temperature, leukocytosis, tachycardia, bile vomiting, dry and furrowed tongue, Ortner and Blumberg symptoms (in the presence of the latter, indicating the presence of peritonitis, which is an absolute indication for emergency operation). An enlarged, disconnected gallbladder with signs of inflammation or destruction of the wall, signs of stagnation in the cystic cavity are determined on ultrasonography. With an established diagnosis of acute obstructive cholecystitis, the effectiveness of conservative therapy is assessed within 24 to 48 hours (optimally within one working cycle, maximum 72 hours). In the absence of a clinical effect of conservative therapy, an urgent operation is indicated, ultrasound control is not required. IMUNNOFAN was being prescribed to patients in the preoperative and postoperative periods. The effect of the drug begins to develop within 2-3 hours after administration and lasts up to 4 months. The drug does not significantly affect the production of reagin antibodies of the IgE (Immunoglobulin E) and does not enhance the

Table 3.
Description in the text

Indicator (Normal value)	Patients group	
	ACCh – control group (n=10)	ADCCh + Immunofan (n=37)
T-helpers (700-1400 (cells/μl)	609,2± 30,8	956,3±56,3
p<0,05*		

immediate-type hypersensitivity reaction. The drug stimulates the formation of IgA (immunoglobulin A) in its congenital insufficiency. Immunofan effectively suppresses the multidrug resistance of tumor. Immunological research was conducted on the basis of the clinic of the Azerbaijan Medical University. On the basis of the obligatory ultrasound control, which allows diagnosing and operating patients with ACCh urgently, it has become possible to reduce the amount of perivesial complications during delayed operations from 37% to 9%. The tactics justified in this way became the standard for treating patients with acute calculous cholecystitis (ACCh) in our clinic. In the course of work, in the process of establishing a number of clinical signs characteristic for ACCh, new data was being taken into account when choosing surgical tactics. Practical development of the diagnostic criterias allowed us to practically avoid the occurrence of the ADCCh in delayed operations. In our observations, postoperative complications occurred in 3 out of 47 patients (6.4%) and were significantly lower ($p > 0.05$) than in patients in the ADCCh group - 28.2%. All cases of postoperative complications in patients with ACCh were of a different nature. In 1 case, wound suppuration was noted after open cholecystectomy. In 1 case right-sided pneumonia occurred after open surgery. Thus, taking into account the possibility of using minimally invasive techniques, Immunofan therapy strengthens the immune system and markedly improves the results of surgical treatment after timely urgent cholecystectomy in patients with ACCh,. Considering the data of a comparative analysis of indicators; immunity of patients with ACCh and with the usual course of destructive cholecystitis, the following conclusions can be drawn:

This suggests that the immune system of the surveyed patients with ADCCh retains the ability to perform its function, but apparently, it works defectively in one or several links. Other authors also obtained similar results of researches on the content of immunoglobulins in patients with ACCh. Identification of distinctive clinical and immunological signs made it possible to distinguish among all patients with acute cholecystitis a group of patients with acute destructive calculous cholecystitis.

Patients with ADCCh prevailed among patients under 60 years of age, with recurrent seizures; these patients had a high level of extra-abdominal postoperative complications (4 times higher than in patients in the control group).

In the group of patients with ADCCh, before surgery, significant suppression of the immune status was detected (by 13–34% of the norm), in particular, such indicators as T-lymphocytes, T-helpers. In the postoperative period, in patients with ADCCh, against the background of the combined therapy, normalization of T-lymphocyte levels was observed, however, the levels of T-helper cells, as well as the index of completion of phagocytosis, remained long-term reduced (by 8 - 19% of the norm). An integrated approach to the diagnosis of acute destructive calculous cholecystitis allowed to identify patients in need of urgent surgical intervention, with a simultaneous increase in the frequency of minimally invasive operations in this group of patients. In turn, this led to a decrease in the frequency of postoperative complications from 11.6% to 4.3%.

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ULTRASOUND DIAGNOSTICS AFTER ORTHOTOPIC LIVER TRANSPLANTATION. US DIAGNOSIS OF VASCULAR COMPLICATIONS IN THE EARLY POST-TRANSPLANT PERIOD

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Ultrasound diagnosis, Doppler sonography of the blood, vessels of the liver, vascular complications, vascular thrombosis of the graft,

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Abstract

In shortage of cadaveric donor organs, orthotopic liver transplantation (OLT) is the only radical method of treatment in terminal stages of chronic diffuse liver diseases.

Ultrasonography (US), which includes gray-scale scan, color and spectral Doppler investigation, is considered as one of the leading methods of instrumental diagnostics and monitoring in liver transplantation.

Ортотопикалық бауыр трансплантациясынан кейінгі ультрадыбыстық зерттеу. Қан тамырларының асқынуларын ерте трансплантациядан кейінгі кезеңде ультрадыбыстық зерттеуі

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Аңдатпа

Мәйіттік донорлық ағзалардың жетіліксіздік жағдайында, бауырдың ортотопиялық трансплантациясы бауырдың созылмалы диффузды ауруларының терминальды сатысын емдеудің жалғыз әрі түбегейлі емдеу әдісі болып табылады.

Сұр түсті шкалалық сканерлеу, түсті және спектральды допплерлік зерттеулерді қамтитын ультрадыбыстық зерттеу (УДЗ) бауырдың трансплантациясы кезінде бақылау мен инструментальды зерттеу әдістерінің арасында жетекші орын алады.

Ультразвуковая диагностика после ортотопической трансплантации печени. УЗ диагностика сосудистых осложнений в ранний посттрансплантационный период.

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Ключевые слова
Ультразвуковая диагностика, допплерография сосудов печени, сосудистые осложнения,тромбоз сосудов трансплантата

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Аннотация

Ортотопическая трансплантация печени (ОТП) является единственным радикальным методом ле-чения при терминальных стадиях хронических диффузных заболеваний печени в условиях дефи-цита трупных донорских органов[1,2].

Ультразвуковое исследование(УЗИ), включающее в себя серошкальное сканирование, цветовое и спектральное допплеровские исследования, рассматривается как один из ведущих методов инструментальной диагностики и мониторирования при трансплантации печени.

Introduction

Complications of the vascular anastomoses, which can lead to irreversible changes in the liver and the death of the recipient, are the severe complications after orthotopic liver transplantation (OLT) [3]. Therefore, timely diagnosis is an important factor for choosing the tactics of patient management after liver transplantation.

Among all methods of instrumental diagnostics, the safest and most easily accessible is ultrasound. The advantages of US: the mobility of ultrasound equipment, the absence of radiation exposure, the ability to conduct research in the course of the day.

Objective

The diagnosis of vascular complications in the early postoperative period.

Materials and methods

Ultrasound examination was performed on 30 patients in the early postoperative period, starting intraoperatively and subsequently twice a day for 5-6 days, then once a day for 7-10 days. The researches were conducted at the reanimation departments of the City Clinical Hospital №7 and NSCS named after A.N. Syzganov. The median age of recipients is 35-40 years old. Among them were four children (three girls and one boy) aged from 5 months to 7 years old, who underwent the transplantation of the left lateral segment of the liver. Ultrasound examination was performed on Philips HD11, GE Vivid I, Medison Ugeo H60 diagnostic systems using convex (3.5-5.0 MHz) and linear (7.0-10.0 MHz) transducers.

Liver graft (LG) ultrasound included an assessment of vascular anastomoses, intrahepatic bile ducts and perihepatic space.

Results

The state of the vascular anastomoses was assessed on the basis of the qualitative and quantitative indicators, developed described in the world literature [6-8].

1. **Portal Vein (PV).** Fig.1.

Qualitative indicators:

– clear visualization of the PV in the gray-scale mode and with the color flow mapping in the area and above the anastomosis, hepatopetal direction of blood flow.

Quantitative indicators:

– the blood flow volume above the anastomosis, normally in adults should not be below 1.0 liter per minute, in children under 1 year old not less than 0.5 liter per minute
– the velocity higher and before the anastomosis; the velocity distal to the anastomosis should not exceed the velocity proximal to the anastomosis more than three times

2. **Artery of the graft.** Fig.2.

Qualitative indicators:

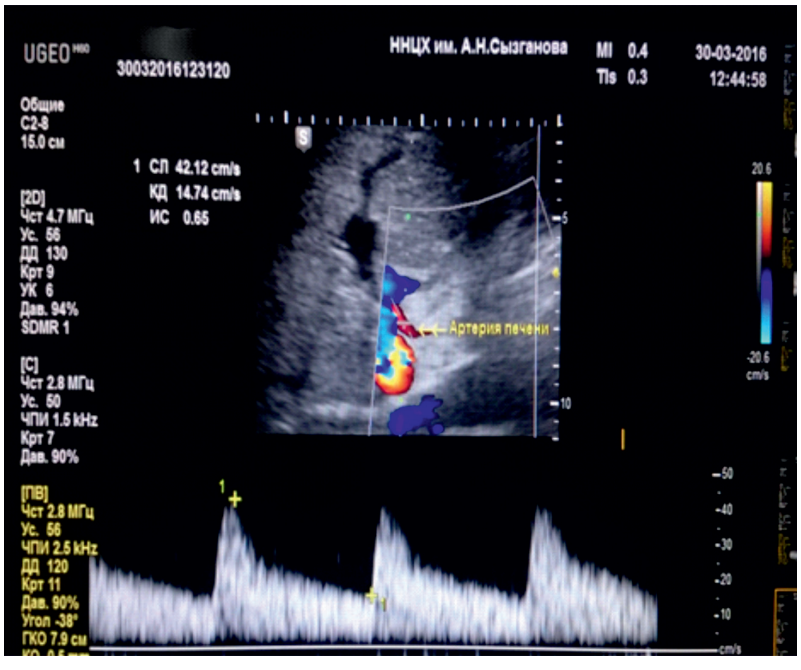
– distinct visualization in color Doppler investigation of the hepatic artery in the area and distal to the anastomosis, hepatopetal direction of blood flow.

Quantitative indicators:

– maximal systolic velocity not more than 200 cm/sec; acceleration time <0.08 sec; index of resistance -> 0.5- <0.7; in the early postoperative period, 70% of recipients showed an increase in the resistance index to 1.0, which gradually decreased to the norm within 4-6 days, which causes by postoperative swelling of the parenchyma.

Fig.1.
Doppler sonography of the PV. Blood flow volume 1.13 l/min

Fig.2.
Ultrasound image of the graft artery



3. Hepatic Veins. Fig.3.

Qualitative indicators:

– clear visualization, lack of local narrowings of the inferior vena cava, correctness of its course, correct direction of blood flow, hepatofugal direction of blood flow.

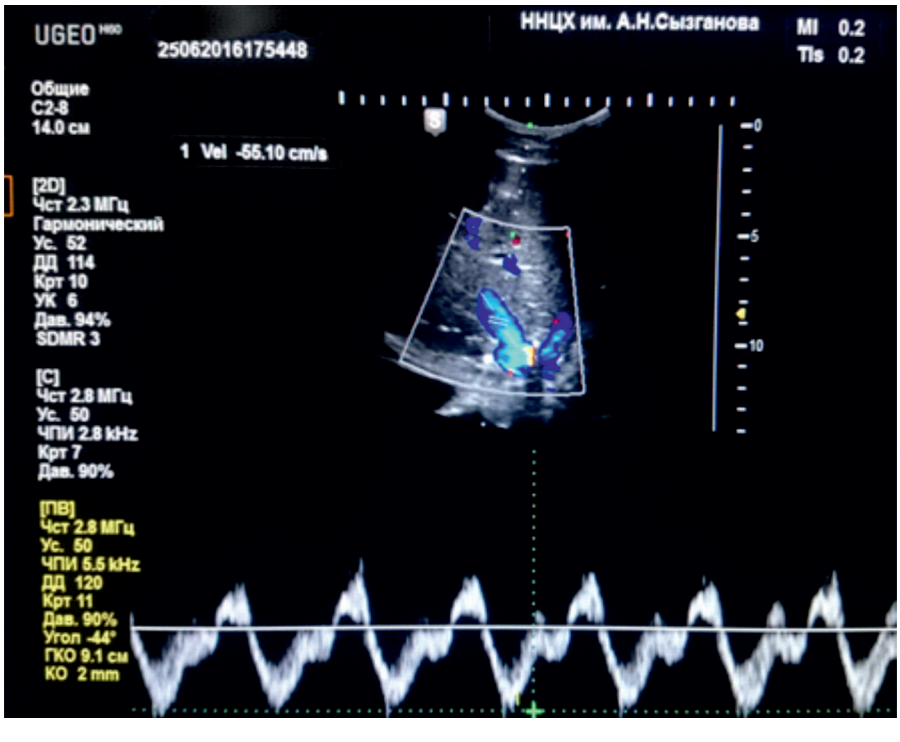
Quantitative indicators:

– the velocity should not exceed 100 cm/sec; three or two-phase blood flow

According to the above indicators, the following vascular complications were revealed during an ultrasound examination in the early post-transplant period:

Hepatic artery thrombosis in 3 recipients (2 adults 40–45 years old and 1 child - 6 months), who had no blood flow in the gate and at the periphery of the graft in the CDI mode and in the Doppler investigation. All recipients had thrombosis of the arterial anastomosis confirmed by CTA of the liver. Changes in the structure, echogenicity of the liver and bile ducts at the time of thrombosis was not detected. In adult recipients, thrombosis was diagnosed on days 3 and 4 after transplantation. Both recipients, after confirming thrombosis on CTA, underwent the operation on an emergency basis:

Fig.3.
Right hepatic vein. Three-phase blood flow



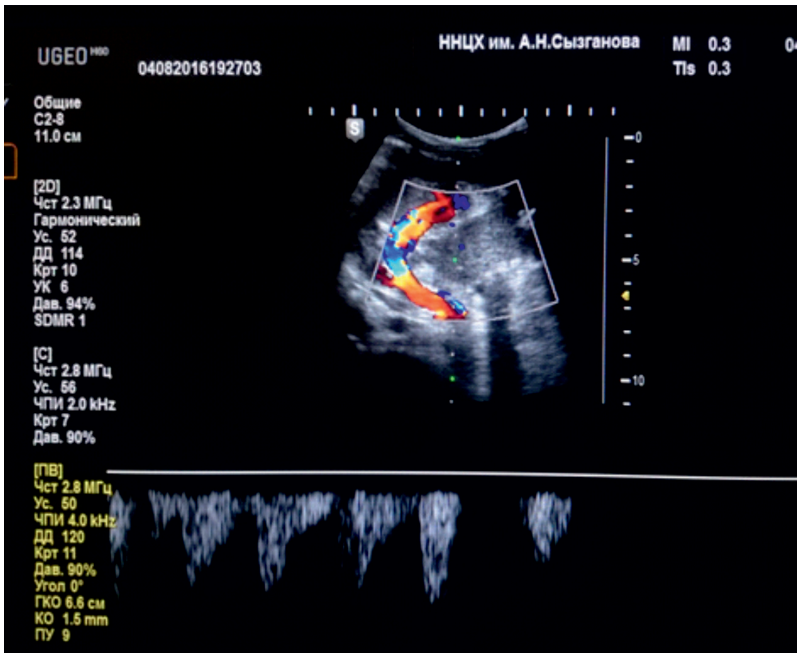


Fig.4. Proximal fragment of the artery of the graft, retrograde blood flow on CDI and Doppler investigation

– relaparotomy, revision of arterial anastomosis, thrombectomy, arterial reanastomosis

In a child with thrombosis, an artery with retrograde blood flow proximal to the anastomosis and the absence of the blood flow distal to the anastomosis were recorded. Fig.4. Artery thrombosis occurred on day 15 after transplantation. The liver structure and laboratory data were within the normal range. A conservative treatment strategy with thrombolytic therapy was selected. Ultrasonography was performed during the week after thrombosis, with no changes in the liver parenchyma and bile ducts.

On the 11th day after the detection of arterial thrombosis (on the 26th day after orthotopic transplantation of the left lateral segment of the liver), during the next ultrasonography of the arterial anastomosis area did not change, but on CDI and intrahepatic dopplerometry, along the branch of the portal vein, a vessel with low resistant arterial blood flow is recorded, indicating recanalization of the graft artery. Fig.5.

Non-occlusive portal vein thrombosis proximal to the anastomosis was detected in 1 recipient (male, 30 years old) on the 3rd day after transplantation. In this case, a narrowing of

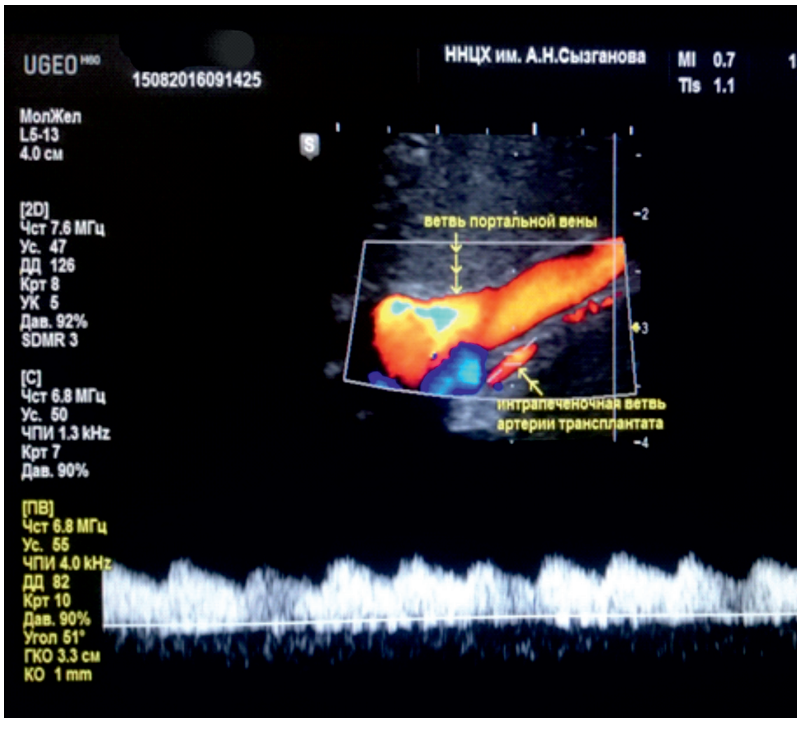


Fig.5. Recanalization of the graft artery

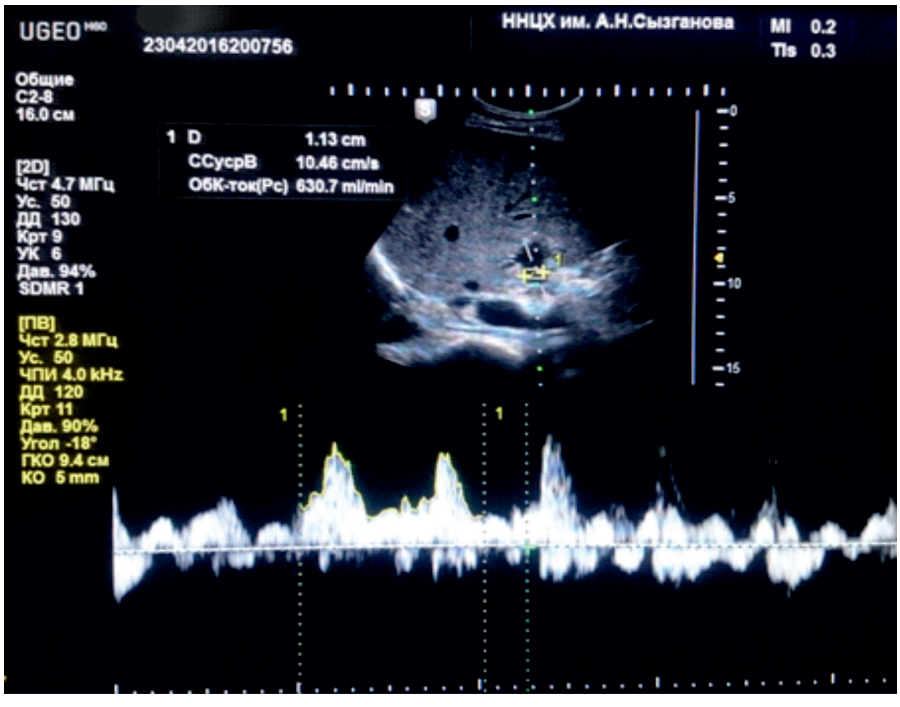


Fig.6.
Pulsating blood flow on PV

the portal vein lumen was found proximal to the anastomosis, with an uneven inner contour. The volume of blood flow distal to the anastomosis was 0.6 liter per minute, the shape of the Doppler spectrum had a pulsating character. Fig.6; the velocity on the graft artery compensatory increased to 130 cm/sec.

With repeated ultrasound 5 hours after the start of thrombolytic therapy, the volume of blood flow increased to 1.4 liters per minute, the lumen expanded to 1.0 cm.

Conclusion

According to foreign sources, the sensitivity of ultrasound in vascular complications indetifying is 85%, specificity is 92%, diagnostic accuracy is 88%. Graft artery thrombosis detecting sensivity is 69-96%. In our research, the sensitivity of ultrasonography showed high informativity in graft artery thrombosis identifying (sensitivity, specificity-100%).

Venous complications of the hepatic graft requiring surgical correction during the research were not identified.

Comprehensive ultrasonography, which includes gray-scale scanning, color and spectral Doppler investigations, is one of the main instrumental methods of primary diagnostics, which allows timely and reliably assess the condition of the graft.

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EFFECTIVENESS OF USING LESS INVASIVE TECHNOLOGIES IN SURGICAL TREATMENT OF ACUTE GALLSTONE DISEASE TOGETHER WITH DYSFUNCTION OF THE THYROID GLAND

МРНТИ 76.29.34

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Abstract

Thus, continuous increase in the number of patients suffering from gallstone disease and thyroid dysfunction and their combination, absence of a single idea with respect to diagnosis and surgical treatment in such contingent patients determines the relevance of the problem selected for the research. ***Research materials and methods.*** *25 patients with goitrous forms together with gallstone disease was inpatient treatment in scientific centre of surgery named after M. A. Topchubashov. They are from 17 up to 63, 19 women (76%) and 6 (24%) men. Among those with different goitrous forms, those who were able to work were prevailed. All 25 patients, who constitute the material of this scientific study, were divided into two groups. The main group consisted of 17 (68%) patients that they were operated (joint cholecystectomy with thyroidectomy) using laparoscopic techniques and instruments (laser). 8 (32%) of patients constitute the control group that traditional surgical intervention was used in gallbladder and gallbladder pathways here jointly with thyroidectomy. All 25 patients with gallstone disease, with various goitrous forms, have undergone surgical treatment.* ***Results.*** *It should be noted that in the last decade significant changes were observed in the structure of the thyroid gland dysfunction. Thus, if patients who previously suffered from thyroid gland with nodular and multiple goitrous were the majority and recently, the significant increase of chronic thyroiditis and cancer disease of thyroid gland was recorded. While using less invasive techniques in the implementation of interventions postoperative complications were encountered in 1 (one) of 17 patients, 1 (5.9%) (seroma), whereas while using conventional methods, complications were occurred in 4 patients (50%) of 8 patients (seroma, irritation and subcutaneous bleeding). When analysing their characteristics it became apparent that while using less invasive technology, complications after thyroidectomy have been observed 2.5 times less than traditional operations; hemocoagulation complications were not found in any patient.*

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Keywords
gallbladder, cholelithiasis, thyroiditis

Қалқанбездің дисфункциясымен бірге жіті өт-тас ауруын хирургиялық емдеудегі азинвазивті технологияларды қолдануының тиімділігі

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Аңдатпа

Сонымен, өт-тас ауруына, қалқанша бездің дисфункциясына және сондай аралас ауруларына шалдыққан пациенттер санының үнемі ұлғаюы, сондай контингентті ауруларды диагностикалау және хирургиялық емдеу туралы бірыңғай көзқарасының жоқтығы таңдалған проблеманы зерттеу үшін өзектігін белгілейді. ***Материалдар мен зерттеу әдістері.*** *Өт-тас ауруымен ілеспе зоб түрлері бар 25 пациент М. А. Топчубашов атындағы ғылыми хирургия орталығының стационарлық ем алып жатты. Олар 17 жастан 63 жасқа дейінгі 19 әйел (76%) және 6 (24%) ерлер құрады. Зоб ауруының түрлі нысандарына шалдыққан адамдар арасында басымдысы жұмыс істей алатындары болды. Осы ғылыми зерттеудің материалы болып табылатын барлық 25 пациент екі топқа бөлінді. Негізгі топ 17 (68%) пациенттен құралған, оларға лапароскопиялық әдістер мен құралдарды (лазер) қолдануымен (біріккен тиреоидэктомиямен холецистэктомия) отасы жасалды. 8 (32%) пациент бақылау тобын құрайды, онда тиреоидэктомиямен бірге дәстүрлі хирургиялық араласу өт қалтасында және өт шығу жолдарында жасалды. Өттас ауруы бар және зобтың түрлі нысандары бар барлық 25 пациент хирургиялық ем алып шықты.* ***Нәтижелері.*** *Соңғы он жылдары қанқанбез дисфункциясының құрылымында айтарлықтай өзгерістер орын алғандығын атап өтке жөн. Сондай-ақ, егерде түйін және көптеген зоб ауруымен қосалқы қанқанбез ауруына бұрын шалдыққан пациенттер көпшілікті құрады, ал соңғы кезде қанқанбез ауруының созылмалы тиреоидиті және онкологиялық ауруларының айтарлықтай өсуі тіркелген. Хирургиялық араласуларды іске асыру кезінде инвазивтігі азырақ әдістерін қолдану барысында операциядан кейінгі асқынулар 17 пациенттің ішінен 1 (бір) пациентте, 1 (5,9%) (серома) кездеседі, онда асқынудың дәстүрлі әдістерін қолданған кезде 8 пациенттен 4 (50%) (серома, тітіркену, теріасты қан кету). Талдау және оларды сипаттау кезінде тиреоидэктомиядан кейін инвазивтігі азырақ технологияларды қолданған кезінде дәстүрлі операцияларға қарағанда, асқынулары 2,5 есе сирек болатындығы анықталған; ешқандай пациентте гемокоагуляцияның асқынуы байқалмаған.*

АВТОРЛАР ТУРАЛЫ

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Түйін сөздер
өт қабы, өт тасы ауруы, созылмалы тиреоидит

Эффективность использования малоинвазивных технологий в хирургическом лечении острой желчнокаменной болезни вместе с дисфункцией щитовидной железы

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Аннотация

Таким образом, постоянное увеличение числа пациентов, страдающих желчнокаменной болезнью и дисфункцией щитовидной железы и их сочетанием, отсутствие единого представления о диагностике и хирургическом лечении у таких контингентов больных определяет актуальность выбранной для исследования проблемы. ***Материалы и методы исследования.*** *25 пациентов с зобными формами вместе с желчнокаменной болезнью находились на стационарном лечении в научном центре хирургии им. М. А. Топчубашова. Они от 17 до 63 лет, 19 женщин (76%) и 6 (24%) мужчин. Среди людей с различными формами зоба преобладали те, кто был способен работать. Все 25 пациентов, которые составляют материал данного научного исследования, были разделены на две группы. Основная группа состояла из 17 (68%) пациентов, которые были прооперированы (совместная холецистэктомия с тиреоидэктомией) с использованием лапароскопических методов и инструментов (лазер). 8 (32%) пациентов составляют контрольную группу, в которой традиционное хирургическое вмешательство применялось в желчном пузыре и желчных путях совместно с тиреоидэктомией. Все 25 пациентов с желчнокаменной болезнью, с различными формами зоба, прошли хирургическое лечение.* ***Результаты.*** *Следует отметить, что в последнее десятилетие наблюдались значительные изменения в структуре дисфункции щитовидной железы. Таким образом, если пациенты, ранее страдавшие щитовидной железой с узловым и множественным зобом, составляли большинство, то в последнее время зафиксирован значительный рост хронического тиреоидита и онкологических заболеваний щитовидной железы. При использовании менее инвазивных методов при осуществлении вмешательств послеоперационные осложнения встречались у 1 (одного) из 17 пациентов, 1 (5,9%) (серома), тогда как при использовании традиционных методов осложнения возникали у 4 (50%) из 8 пациентов (серома, раздражение и подкожное кровотечение). При анализе их характеристик выяснилось, что при использовании менее инвазивных технологий осложнения после тиреоидэктомии наблюдались в 2,5 раза реже, чем при традиционных операциях; осложнений гемокоагуляции не было обнаружено ни у одного пациента.*

Ключевые слова

желчный пузырь, желчнокаменная болезнь, хронический тиреоидит

The actuality of the subject

Despite the achievements in clinical medicine, gallstone disease and gall bladder problem remains one of the most actual problems of so far modern clinical medicine and especially of the surgery [1,3,11,15,17]. In this regard, one of the most important events in medicine in recent decades is the strong development and implementation laparoscopy technologies in extensive clinical practice that radically changing the face of modern surgery (28,12). Currently less invasive interventions are practically used in all areas of abdominal surgery. (11.12) suggests that infections, cholesterol and calcium metabolic disorders, as well as the factors that lead to the development of dyskinesia on sedimentary streams play a major role among the causes of gallstone disease. Taking into consideration the prevalence of females among patients, as well as, pregnancy, obesity, gynaecological disorders accompanying with increase of blood level of cholesterol and calcium, and diseases, it may be assumed that internal secretion glands, specially activity of thyroid gland play great role in the pathogenesis of gallstone disease. As it is known that the frequency of tireopathy is also increasing steadily and currently accounts for about 10% of the total population (7.8) that which is due to iodine deficiency (13,14), pollution of the biosphere (14,15) and radiation effects. Though there is a great arsenal of methods of examination, diagnosis of the pancreatic gland disease is not an issue that has been solved at all (10,18). There are only rare editions among a large number of cases dedicated to joint operations that it is devoted to simultaneous surgical treatment of patients suffering from gallstone disease and thyroid dysfunction. (2,4,5,8). This is most likely that can be explained by the lack of desire of surgeons to engage in additional surgical interventions with intravenous injection which can alter the adaptation ability of organism to operation trauma. However, undesirable events occur during two-stage operations of patients with gallstone disease and thyroid dysfunction. Thus, at the first stage when performing the surgical operation in thyroid, an increase in the inflammation process in gallbladder pathways and the development of gallstone disease may occur during postoperative period. In reverse sequence, postoperative period may aggravate with the thyrotoxicotic crisis or there is a real danger for transmission of treatment period in cases of malignant injury of thyroid.

Thus, continuous increase in the number of patients suffering from gallstone disease and thyroid dysfunction and their combination, absence of a single idea with respect to diagnosis and surgical treatment in such contingent patients determines the relevance of the problem selected for the research.

Research materials and methods

25 patients with goitrous forms together with gallstone disease was inpatient treatment in scientific centre of surgery named after M. A. Topchubashov. They are from 17 up to 63, 19 women (76%) and 6 (24%) men. Among those with different goitrous forms, those who were able to work were prevailed. All 25 patients, who constitute the material of this scientific study, were divided into two groups. The main group consisted of 17 (68%) patients that they were operated (joint cholecystectomy with thyroidectomy) using laparoscopic techniques and instruments (laser). 8 (32%) of patients constitute the control group that traditional surgical intervention was used in gallbladder and gallbladder pathways here jointly with thyroidectomy. All 25 patients with gallstone disease, with various goitrous forms, have undergone surgical treatment.

Hyperfunction of the thyroid gland may be due to the formation of one or more nodes both in DT3 and in thyroid that in this case active function of thyroid leads to the formation of thyroid hormones. Against the background of the continuous increase in patients with gallstone disease and patients with surgical trauma in the thyroid, increase the number of patients with these diseases is also lawful. It should be noted that the type associated with thyroid pathology is more frequently found among all types of gallstone disease jointly with other pathologies. In this case, if there are appropriate guidelines and conditions for the surgical treatment of the disease, a joint operation is performed. Table 1 shows the gender and age division of patients depending on the type of surgical intervention in bile duct and thyroid of patient with thyroid dysfunction and gall bladder.

As seen from Table 1 groups of patients who have performed jointly conventional and joint less invasive operations in bile duct and thyroid were groups that could coordinate the number, sex, and age of patients. Most of these patients were -21 (68%) women. Men were only 4 people, i.e. 32%. The average age of the patients was 47.3 ұ 6.8 years that which corresponds to the period of endocrine disorders noticeable with body menopause. The nature of inflammation changes of gallbladder and thyroid depending on the type of surgical intervention in the gallbladder pathways and thyroid of operated patients related to gallstone disease and thyroid gland dysfunction is shown in Table 2.

Table 2 shows that most of the patients - 21 (92%) - were operated for chronic inflammation of the gallbladder and various forms of goitrous and 4 patients (8%) were operated for acute phlegmonous cholecystitis.

The structure of thyroid gland diseases of operated patients due to gallstone disease and thyroid pathology.

As it seen from indicators of Table 3 that nodular and multiple goitrous, chronic thyroiditis and thyroid gland cancer caused an instruction for surgical intervention in approximately the same number of thyroids patients with gallstone disease. Operations on thyroid were performed later on with diffuse toxic goitrous.

Results

It should be noted that in the last decade significant changes were observed in the structure of the thyroid gland dysfunction. Thus, if patients who previously suffered from thyroid gland with nodular and multiple goitrous were the majority and re-

Age	Type of surgical intervention in the gallbladder and thyroid				
	Control group n-8		Main group n -17		
	Male	Female	Male	Female	
21-30		1		1	2
31-40		-		6	6
41-50	1	3	-	5	9
51-60		2	1	2	5
61-70	1	-	1	1	3
Sum	**2 (25%)**	**6 (75%)**	**2 (23,5%)**	**15 (76,5%)**	**25 (100%)**

Table 1.
The gender and age division of patients depending on the type of surgical intervention in bile duct and thyroid of patient with thyroid dysfunction and gall bladder.

Cholecystitis and goitrous forms	Type of surgical intervention in gallbladder pathways and thyroid gland.		Sum
	Control group - 8	Main group - 17	
Chronic cholecystitis + various goitrous forms	Cholecystectomy + thyroidectomy - 5	Cholecystectomy + thyroidectomy - 16	21 (92%)
Acute Calculix Cholecystitis + nodular goitrous	Cholecystectomy + thyroidectomy - 3	Cholecystectomy + thyroidectomy - 1	4 (8%)
	8	17	25 (100%)

Table 2.
The nature of inflammation changes of gallbladder and thyroid of operated patients related to gallstone disease and thyroid gland dysfunction

Table 3.
Shows the structure of thyroid gland diseases of operated patients due to gallstone disease and thyroid pathology

Thyroid gland pathology feature	Patients number	
	Absolute	%
Nipple and Multiple goitrous	5	20
Chronic thyroiditis	3	12
Cancer of the thyroid gland	2	8
Adenoma of the thyroid gland	14	56
Diffuse toxic goitrous	1	4
Final	**25**	**100**

cently, the significant increase of chronic thyroiditis and cancer disease of thyroid gland was recorded. While using less invasive techniques in the implementation of interventions postoperative complications were encountered in 1 (one) of 17 patients, 1 (5.9%) (seroma), whereas while using conventional methods, complications were occurred in 4 patients (50%) of 8 patients (seroma, irritation and subcutaneous bleeding). When analysing their characteristics it became apparent that while using less invasive technology, complications after thyroidectomy have been observed 2.5 times less than traditional operations; hemocoagulation complications were not found in any patient.

Final results

1. Mostly, having nodular and multiple nodular goitrous, chronic thyroiditis of most patients with gallstone disease suffering mainly from chronic cholecystitis indicate joint surgical intervention in thyroid.
2. There is a specific pathogenic correlation hypercholesterinaemia, hypercalcaemia and hypokinesia on gallbladder pathways, as well as changes in the structure of the gallbladder tissue between gallstone disease and thyroid gland disease accompanied by hypothyroidism.
3. When encountered gallstone disease and thyroid gland dysfunction, it is advisable to perform operations with low invasive technologies in the gallbladder system and thyroid.
4. Performing joint operations with the application of the proposed surgical instruments (laser) in comparison with less invasive and traditional way on the gallbladder and thyroid outside liver significantly reduce the number of complications and thereby, improving the results of surgical treatment of patients with gallbladder and thyroid dysfunction.
5. The proposed new low invasive technologies and tools for tissue removal (laser) during simultaneous conduct of joint operations in different forms gallstone disease and thyroid help to reduce the stabilization period of patient in hospital, hemodynamic parameters and intensity of pain syndrome.
6. Pathogenetic grounded effective treatment-diagnostic tactics with simultaneous application of less invasive technology during joint operations of patients in its various forms of gallbladder disease and thyroid improves the results of treatment of nearest and later results (complications).
7. Simultaneous application of new invasive technologies in patients with gallstone disease and thyroid gland disfunction leads to early rehabilitation and restoration of normal lifestyle and ability to work, provides a high efficiency of treatment and has a great social importance.

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CLINICAL ASPECTS OF REHABILITATION TREATMENT OF PATIENTS WITH TERMINAL COLOSTOMY AFTER RADICAL SURGERY FOR CANCER OF THE RECTUM

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Keywords
oncology, rectal cancer, colostomy, quality of life.

Abstract

It is known that patients with rectal cancer belong to the category of cancer patients with the most pronounced degree of disability, which is primarily due to the high percentage of stoma operations in this pathology. In this situation, a comprehensive approach is needed to solve this problem. Thanks to the multi-component rehabilitation treatment in patients with rectal cancer with unnatural anus after radical surgery, including a certain algorithm when choosing the place of formation of the colonic terminal stoma, diet therapy, the use of funds and the order of care for the colostomy, methods of prevention and elimination of complications from the intestinal stoma, it was possible to achieve good functional results of treatment, expressed in a high coefficient of "labor rehabilitation", which amounted to 71,3±4,9%. At the same time, every fifth stomic returned to the preoperative way of life independently, and the coefficient of "self-rehabilitation", which reflects the ratio of patients who returned to work without passing the MSEC, to the number treated for this localization, was 18,4±4,2%.

Тік ішек обырына жасалынған радикалды хирургиялық операциялардан кейінгі ішектің соңғы бөліктеріндегі колостомалары бар науқастарды қайта қалпына келтіру емінің клиникалық аспектілері

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Аңдатпа

Тік ішек обыры бар пациенттер мүгедектік дәрежесі анағұрлым жоғары болатын онкологиялық науқастардың санатына жататыны белгілі, бұл бірінші кезекте осы патологиядағы стома салу операцияларының жоғары пайызымен байланысты. Бұл жағдайда осы мәселені шешу үшін кешенді тәсіл қажет. Түбегейлі операциялардан кейін салынған, жасанды артқы тесігі бар тік ішек обырымен ауыратын науқастарға жүргізілген тоқ ішектің стомасын салу кезінде орнын анықтауға арналған алгоритм, диетотерапия, колостомаға арналған күтім, алдын алу шаралары және ішектік стоманың асқынуларын болдырмау секілді шаралардан тұратын көп құрамды қалпына келтіру емінің арқасында «еңбек реабилитациясының» 71,3±4,9% жоғары коэффициентін құрайтын жақсы функционалды нәтижелерге қол жеткіздік. Сонымен қатар стома қойылған әрбір бесінші науқас операцияға дейінгі өмір сүру қалпына өздігінен қайта оралды, ал медико-әлеуметтік сараптама комиссиясын (МӘСК) өтпей осы локализация бойынша емделіп еңбекке оралған науқастардың ара қатынасын анықтайтын «Өздігінен қалпына келу» коэффициенті 18,4±4,2% құрады.

Клинические аспекты восстановительного лечения больных с концевыми колостомами после радикальных хирургических вмешательств по поводу рака прямой кишки

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Аннотация

Известно, что пациенты раком прямой кишки относятся к категории онкологических больных с наиболее выраженной степенью инвалидизации, что связано, в первую очередь, с высоким процентом стомирующих операций при этой патологии. В этой ситуации необходим комплексный подход для решения данной проблемы. Благодаря проведению многокомпонентного восстановительного лечения у больных раком прямой кишки с противоестественным задним проходом после радикальных хирургических вмешательств, включающего определенный алгоритм при выборе места формирования толстокишечной концевой стомы, диетотерапию, применение средств и порядок ухода за колостомой, способы профилактики и устранения осложнений со стороны кишечных стом, удалось достичь хороших функциональных результатов лечения, выражающихся в высоком коэффициенте «трудовой реабилитации», который составил 71,3±4,9%. Вместе с этим, каждый пятый стомик вернулся к дооперационному образу жизни самостоятельно, а коэффициент «самореабилитации», который отражает отношение больных, вернувшихся к труду без прохождения МСЭК, к числу леченных по данной локализации, составил 18,4±4,2%.

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Ключевые слова
онкология, рак прямой кишки, колостома, качество жизни.

Introduction

Today, rectal cancer, despite its affiliation with visually accessible locations and ongoing activities to actively identify this pathology at an early stage in the form of screening, continues to occupy a leading position in the incidence and disability of the population [1,2]. An impressive percentage of locally advanced forms of the advanced (third) stage of the disease predetermines the occurrence of a complicated course of rectal cancer, which in turn leaves no choice to surgeons in favor of abandoning primary restorative or sphincter-preserving surgery and the formation of unnatural anus on the anterior abdominal wall [3,4,5]. At the same time, a well-formed and adequately functioning colostomy allows to achieve good functional results of treatment and the quality of life of these patients [3,5,6].

At the same time, even with technically correct formation of anus praeternaturalis, a complex of targeted translational measures is needed both at the pre- and postoperative stages of treatment, which allows the patient to recover the physical and functional state as much as possible.

At the same time, it should be noted that of the total number of postoperative complications, the most frequent complication leading to dysfunction of the colostomy is its stricture, the frequency of which reaches 5-7% [6,7].

The aim of the study was to improve the quality of life of patients with rectal cancer subjected to radical surgical interventions with the formation of an abdominal end colostomy.

Material and methods

This study is based on the analysis of the results of radical surgical treatment of 134 patients with rectal cancer of stage II-III with the imposition of terminal anus praeternaturalis (abdominoperineal extirpation and obstructive resection of the rectum).

The complex of rehabilitation measures started from the moment of admission of patients to the hospital. Most of the patients who were facing the formation of an unnatural anus, as a rule, were in a state of severe depression, experienced fear and despair in connection with the upcoming operation, which was especially evident in young people. Therefore, during the initial examination, the patient was interviewed in which he was told that such a procedure is necessary for saving lives, brought the patient a situation in which an intestinal stoma is formed and existing methods of care for it, allowing them to return to a sufficiently full life. The most effective way to resolve possible fears and doubts is to meet the patient with people who have previously undergone such surgery and successfully deal with the care of an unnatural anus (sometimes these were roommates who had already undergone such operations and are preparing for discharge). The patient, even before the start of treatment, was set

up on the idea that the colostomy is not an obstacle to returning to the former way of life or work activity.

One of the key points in the complex of rehabilitation measures for patients who were to form an unnatural anus was the choice of the place for the future formation of a colostomy on the anterior abdominal wall. This procedure was performed together with the patient on the eve of the operation. The following principles were followed:

- the choice of the place of formation of the colostomy should be carried out in different positions of the patient's body, especially in persons with overweight;
- colostomy should be easily accessible for inspection and care;
- anus praeternaturalis should be located in the left iliac region at a sufficient distance from the iliac bone, navel, and the costal arch to be worn;
- intestinal stoma should be away from the belt line for clothes, folds, scars and other gross deformities of the anterior abdominal wall.

The implementation of these principles further greatly facilitated the patient's care for an unnatural anus, since it made it possible to easily use all available modern methods of colostomy care.

The first, and most essential for the modern approach to solving the problems of patients with colostomy, is the problem of choosing stoma care items. The second is the possibility of using them in those social and living conditions in which a person lives. The third is the possibility of teaching one or another way of caring for a stoma, largely determined by the state of the patient's psyche or people caring for it.

Results and discussion

As the patient's general condition recovered and postoperative wound healed, they proceeded directly to learning how to care for an unnatural anus. It included the regulation of feces diet and medication, the use of adhesive tank for feces, as well as the implementation of regular enemas through the colostomy (colon irrigation). The essence of the recommendations on nutrition was to advice carefully register changes in the nature of the feces and emptying, depending on the use of certain foods. At the same time, it is advisable to adjust the frequency and nature of the feces with foods that have a fixing or laxative effect. The principal is the absence of any restrictions on the qualitative composition of food. However, the use of food regulation of the chair is not always successful. So in case of constipation, they prescribed a diet with a high content of fiber in combination with taking bran against the background of water regime (1,0-1,5 liters of fluid per day), the use of natural mineral water, which improves the metabolic processes of the gastrointestinal tract and its motor activity. It should be noted that the frequency and nature of feces often depend directly on the individual characteristics of the motor function of the intestinal tract. When irregular bowel function with the release of unformed feces and a large amount of gases resorted to the appointment of a rehydration composition in combination with activated charcoal and other drugs.

In cases where it was not possible to achieve regular and decorated feces, they resorted to the use of tank for feces or irrigation of the colon. The most effective were tank for feces on an adhesive basis, which provided the necessary tightness and comfortable existence of patients throughout the day. It is advisable to use tank for feces, adhesive substance which is created on a biologically active basis, protecting the skin from the damaging effect of fecal masses. Such products consist of an adhesive plate and a bag, and differ from each other in the protective properties of the adhesive and the methods of attaching polyethylene bags to them. The use of glued tank for feces does not require any additional conditions for their sticking and removal, however, we recommended patients to allocate a special place where the necessary devices would be stored (the tank for feces, scissors, gauze balls). A more economical, but more time-consuming method is irrigation of the colon, which includes regular (1 every 1-3 days) emptying of the colon with enemas. However, this method often causes pain during the procedure, up to nausea and vomiting; in addition, a significant number of patients simply do not have adequate home conditions for irrigation. However, some patients recognized this method as optimal for themselves and used it as the main method of stoma care. All of them colon irrigation was done in the morning before breakfast with a break from 1 to 4 days. In the interval between enemas, they did not have uncontrolled discharge of gases and feces, which allowed them to work and (or) visit public places.

It should be noted that dietary recommendations, including intake of foods rich in fiber, wheat bran and dietary advice, allowed more than a third of patients to characterize the activity of the intestine as regular with a one-two-day emptying during the day. These patients did not use tank for feces or enemas through the colostomy, but resorted to this or that method of caring for the stoma only if necessary for a long stay in public places.

Now, as for the strictures of the terminal colostomy. What are the main causes of their occurrence?

It is possible to conditionally divide the stricture level: 1) at the level of the skin, 2) at the level of

the muscular aponeurotic component of the anterior abdominal wall. The reasons for the first type of stricture may be the following:

a) the colostomy segment of the colon has inadequate blood supply, which leads to its necrosis and cicatricial stricture of the colostomy at the level of the skin;
b) the terminal section of the intestine is removed with tension, which subsequently leads to its retraction and scarring of the edges of the skin wound;
c) fixing the intestine to the edges of the skin wound with sutures from coarse suture material, followed by leaving ligatures, which leads to the formation of granulomas and cicatricial stenosis at the skin level.

Causes of colostomy stricture at the level of aponeurosis can be:

a) the formation of too narrow holes in the aponeurosis, and therefore there is a stricture at the level of the muscular aponeurotic component of the anterior abdominal wall;
b) insufficient hemostasis, leading to the formation of hematoma, paracolostomy abscess and stricture;
c) fixing of the excreted intestinal segment in the depth of the wound channel with sutures from a rough suture material, which leads to the formation of a ring with granulomas and cicatricial stricture.

In this situation, there is always the question of tactics for the management of such patients. To answer this question, a classification of end colostomy strictures is necessary. In our work, we adhered to the following classification of end colostomy strictures [8]:

Grade I - compensated: there is colostomy stenosis, which does not prevent intestinal emptying, decorated fecal masses are easily excreted; The method of correction of functional disorders of the colostomy is conservative therapy (diet therapy, drug therapy).

Grade II - subcompensated: there is an obstacle to the normal bowel movement, freely separated feces mushy consistency; the method of correction of end colostomy dysfunction consists in the finger (patients themselves can perform) or instrumental (performed by the surgeon) dilution of the colostomy.

Grade III - decompensated: there is a stricture of colostomy with symptoms of decompensation of the colonic obstruction, only liquid feces and (or) gases are freely released. In this case, the necessary reconstruction of the colostomy.

In contrast to the situation when the terminal colostomy was formed after abdomino-perineal extirpation of the rectum according to oncological criteria (cancer of the lower ampullae of the rectum and anal canal), in other cases obstructive resections of the rectum (Hartmann's operation) were performed due to a complicated process or severe concomitant pathology (intestinal obstruction, paracancrosis abscess, severe diabetes, etc.). Guided by the above classification, postoperative strictures of terminal colostomy of varying degrees were detected in 5,4% of patients.

During the correction of functional disorders of the terminal colostomy, according to the classification with I degree, it was possible to achieve satisfactory results and quality of life through diet therapy. For grade II strictures, a finger bougienage of the stoma was performed; the bougienage technique consisted in regular (one of the prerequisites for obtaining the effect) holding the finger below the constriction so that the diameter obtained was maintained. With the inefficiency of the finger, instrumental bougienage was performed. For strictures of the III degree, the patient underwent a reconstruction of the colostomy.

The analysis of the quality of life of patients after the rehabilitation treatment showed that the overwhelming number of patients adapted to the changed living conditions and adapted to the social and working environment. At the same time, the motivation for returning or refusing to work in various socio-occupational groups had practically no differences. So, the main motives for returning to work were “the desire to save the family budget” and “I can’t imagine my life without work”, and the reasons for the refusal are “fear of being in a special position in the work team” and “family circumstances”.

In order to assess the effect of the transferred surgical intervention on the working ability of patients in the postoperative period, the coefficient of “labor rehabilitation” was calculated. The coefficient of “labor rehabilitation” reflects the actual return to work of patients with tumors of basic localization, regardless of whether they passed MSEC or not, have or do not have a disability group, and is a cumulative indicator that includes the proportion of people who returned to work independently, the proportion of people working in the presence of Group III disability and the proportion of persons who received during the initial examination of Group I and Group II disability and returned to work. When calculating the "labor rehabilitation" coefficient, it was established that it amounted to 71,3ұ4,9%. At the same time, the “self-rehabilitation” coefficient, which reflects the proportion of individuals who returned to the pre-operative lifestyle independently (the ratio of patients who returned to work without undergoing MSEC, to the number treated by this localization) was 18,4±4,2%.

Conclusion

Thus, the use of an integrated approach during the medical rehabilitation program in patients with unnatural anus has improved the quality of life of this cohort of patients, the overwhelming number of patients undergoing disabling surgical interventions with end colostomy, and socially adapted to society without narrowing the range of their vital interests, and a significant number of patients working before the disease - to return to work.

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RECURRENT CELL CARCINOMA OF THE LEFT KIDNEY AFTER 27 YEARS AFTER NEPHRECTOMY ON THE RIGHT. CASE REPORT

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Abstract

Clinical case of the recurrent renal cell carcinoma 27 years after contralateral nephrectomy. Patient 56 years old male, admitted to the hospital with gross haematuria. Patient was examined: on ultrasound and computed tomography neoplasm of solitary left kidney was revealed. Patient history: in 1991 patient underwent open nephrectomy on the right about renal cell carcinoma. Afterwards was under follow-up for 5 years and no signs of recurrence were revealed on control check-up. On computed tomography scans kidney has the dimensions 20,4x8.62 cm and neoplasm 10,5 x 8,3 cm extending from upper pole to the renal hilum. Considering that patient has only one kidney we decided to perform renal sparing surgery but it was unclear precisely the state of invasion of renal hilum, thus it was planned to attempt extracorporeal resection of kidney.

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Keywords
recurrent renal cell carcinoma, solitary kidney, extracorporeal resection.

27 жыл бұрын нефрэктомиядан кейінгі рецидивті жалғыз қалған сол бүйректің бүйрек-жасуша карциномасының клиникалық оқиғасы

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Аңдатпа

27 жыл бұрын нефрэктомиядан кейінгі рецидивті жалғыз қалған сол бүйректің бүйрек-жасуша карциномасының клиникалық оқиғасы. Науқас 56 жаста, ер адам, келіп түскен кезде зәрдің қан аралас болуына шағымданады. Тексеріп қараған кезде ультрадыбысты зерттеу және компьютерлік томографияда сол бүйректің ісігі анықталды. Науқастың ауру тарихында: 1991ж науқасқа оң жақ бүйректің бүйрек-жасуша карциномасы себебінен оң жақты ашық нефрэктомия жасалынған. Тұрғылықты жері бойынша дәрігерде 5 жыл бойы бақылауда болған, бірақ рецидив белгілері болмаған. Компьютерлік томографияда сол бүйректің өлшемдері 20,4 х 8,62 см, ісіктің көлемі 10,5 х 8,3 см болды. Ісік бүйректің жоғарғы полюсынан бүйрек қақпасына дейін жайылған. Науқаста жалғыз қалған тек сол бүйрек болғандықтан науқасқа ағзанысақтау отасы жасалуына шешім қабылданды, бірақ түзілістің бүйрек қақпасына инвазия дәрежесін нақты білмегендіктен экстракорпоральді бүйрек резекциясы планданды.

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Түйін сөздер
рецидивті бүйрек-жасуша карциномасы, жалғыз қалған бүрек, эктракорпоральді резекция.

Рецидивный почечно-клеточный рак единственной оставшейся левой почки после ранее проведенной 27 лет тому назад правосторонней нефрэктомии. Клинический случай

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Аннотация

Клинический случай рецидивного почечно-клеточного рака единственной оставшейся левой почки после ранее выполненной 27 лет тому назад правосторонней нефрэктомии. Пациент 56 лет, мужчина, поступил с жалобами на макрогематурию. При обследовании на ультразвуковом исследовании и компьютерной томографии было выявлено образование левой почки. Из анамнеза пациента: в 1991г. пациенту была выполнена открытая нефрэктомия справа по поводу почечно-клеточного рака. Пациент находился под наблюдением врача 5 лет, в течение которого не было рецидива заболевания. На компьютерной томографии размеры левой почки составляли 20,4х8.62 см, а образования - 10,5 х 8,3 см. Последнее распространялось от верхнего полюса до ворот почки. Учитывая единственную оставшуюся левую почку пациента, было принято решением провести органосохраняющую операцию, однако до сих пор не было понятно четко степень инвазии образования в области ворот, поэтому планировались проведение попытки экстракорпоральной резекции почки.

ОБ АВТОРАХ

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Ключевые слова
рецидивный почечно-клеточный рак, единственная почка, экстракорпоральная резекция.

Introduction

Renal cell carcinoma is the most frequent of the urologic malignancies, with approximately 20% to 30% of patients presenting with metastatic disease with mortality rates more than 40%. Surgical resection for clinically localized disease is the common choice for curative intervention. However, recurrence rates of 20% to 40% after nephrectomy for clinically localized disease [1, 2].

The greatest risk of recurrence for RCC occurs within the first 5 years after nephrectomy, with the majority of recurrences occurring within 3 years. Although recurrences have been reported as late as 30 years following nephrectomy, rates of 43% in the first year, 70% within the second year, 80% within 3 years, and 93% within 5 years have been reported [3,4]

Tumor stage plays an important role in timing of recurrence, with T1 tumors generally recurring between 38 and 45 months, whereas T3 tumors generally recur between 17 and 28 months following initial nephrectomy. After nephrectomy, the incidence of RCC recurrence has been reported to be 7% with a median time of 38 months for T1 tumors, 26% with a median time of 32 months for T2 disease, and 39% with a median time to recurrence at 17 months for T3 tumors [5, 6].

RCC has been shown to metastasize to almost all soft tissues in the body, but most commonly to the lung, followed by bone, liver, brain, and local recurrence. Metastases to brain, bone, and liver often present as widely disseminated disease [7]

Time to disease recurrence or progression is important in planning surveillance. In the literature, most of the tumour recurrences occur within 5 years [1-5]. Some authors advocate follow-up for the first 5 years, others for 10 years.

Contralateral kidney involvement with tumour, has been reported to occur in 0.4% to 12.9%. Positive surgical margins and multifocality were good predictors in clear cell renal cell carcinoma and nuclear grade for recurrent papillary renal cell carcinoma [8].

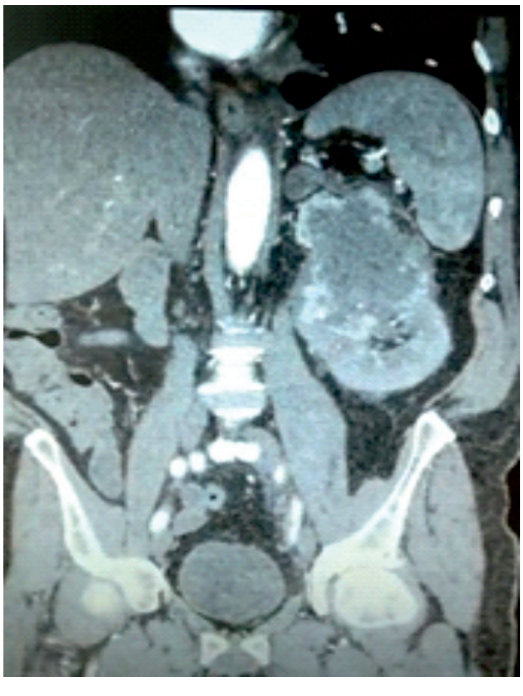

Fig.1. CT scan demonstrates the neoplasm of the left kidney extending from the upper pole to the renal hilum.

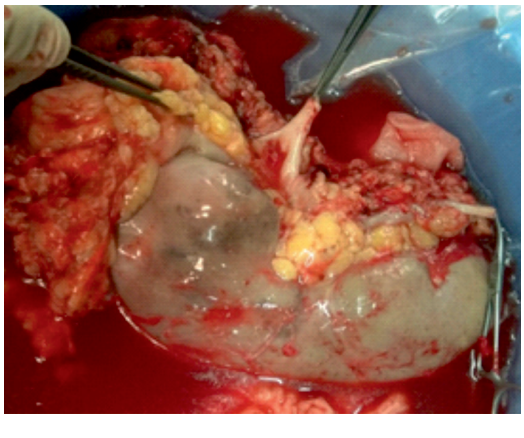

Fig.2. Back-table. Kidney is washed out with special solution (Custodiol). Margins of the lesion are seen clearly

Case report

A 56 years-old man admitted to our hospital with gross haematuria. In past, 27 years ago, patient underwent right side open nephrectomy for renal cell carcinoma. Afterwards he was under follow up for 5 years during this period no signs of recurrence were detected.

On computed tomography scans neoplasm of the solitary left kidney was revealed. Kidney has the following dimensions: 20,4x8.62 cm. Also sizes of the neoplasm were measured - 10,5 x 8,3 cm, extending from upper pole to the renal hilum (Pic. 1).

Laboratory tests were also performed: creatinine was 1.59 mg/dl, BUN – 8.0 mmol/l, glucose – 8.0 haemoglobin 98 g/l.

Concurrently patient has diabetes mellitus type 2, insulin-required state. Previously patient has episodes of obstruction of upper urinary tract due to blood clots with subsequent acute kidney injury and creatinine rise up to 5.65 mg/dl.

Taking into account that patient had only one kidney and big dimensions of the latter we decided to preserve kidney by performing renal-sparing surgery, if possible. But it was not clear the state of invasion of neoplasm to the renal hilum. So we planned firstly to perform extracorporeal resection of kidney on back-table and, if possible, to perform subsequently autotransplantation of kidney.

Median laparotomy was chosen as surgical approach. Kidney was fully dissected from surrounding tissues. Ureter, artery and vein were temporarily clamped and kidney was taken on a back-table, washed out by special solution (Custodiol) (Pic2.).

Kidney was divided longitudinally from the top to the hilum across the neoplasm to assess the state of invasion and possibility to save the kidney (Pic 3.).

As seen in gross specimen neoplasm invades the renal hilum, intimately to renal artery and vein. Thus, it was surgically not feasible to preserve this kidney and back table finished afterwards. Clamped renal vessels were then clipped and surgery finished closing the wound. Patient was prepared to hemodialysis by placing double-lumen catheter and formation of arterio-venous fistulae on the left forearm.

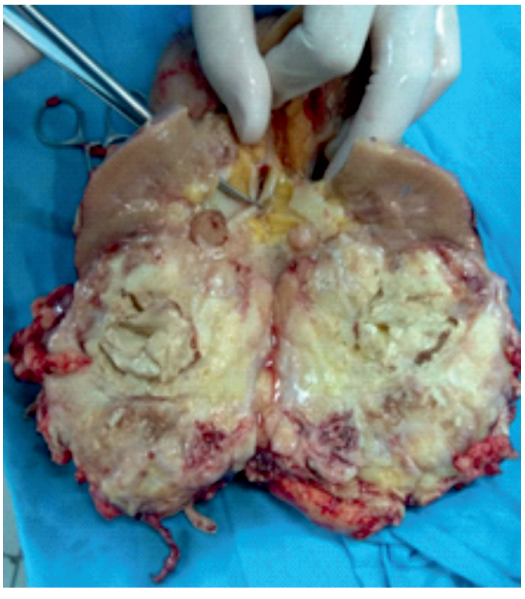

Fig.3.
Gross specimen. The lesion extends from upper pole to the renal hilum, intimately to the renal vessels

Conclusion

In this case renal cell carcinoma recurred after 27 years of initial diagnosis and remove of the contralateral kidney. Taking this case as an example it is not precisely clear how long should be patient under follow-up. Unfortunately, we don't have any data about the grade of neoplasm at initial diagnosis in the past.

We suggest monitoring the patients after nephrectomy about the renal cell carcinoma for 5 years annually and afterwards to follow-up once in 2 years subsequently. It will make possible to detect recurrence and at least at stage of a small size renal sparing surgery can be accomplished.

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ADHESIVE DISEASE (REVIEW)

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Abstract

Adhesive disease of the abdominal cavity is one of the most common complications after abdominal and small pelvic surgery. This complication, in turn, leads to infertility, chronic pain in the abdomen and intestinal obstruction. Laparoscopy has become a "Golden Standard" for surgery of surgical abdominal organs. Laparoscopic surgery has a number of advantages over open surgery, including rapid recovery, reduction of hospitalization days, post-operative pain reduction, as well as cosmetic priorities. Further improvement of this branch of technology, the development of modern techniques and the development of special laparoscopic skills - expanded the spectrum of operations on the abdomen, such as the construction of intracorporal stitches and anastomosis. Postoperative adhesions are directly related to abbot subsection of the abomasum, and are the major cause of intestinal obstruction. At present, anti-drowning barriers are widely propagated in the prevention of adhesions. Studies show that adherence to adhesion does not adversely affect intestinal anastomosis. However, anastomoses are not recorded correctly in the abdomen, regardless of the presence of anti-deposition barriers. The review provides information on the pathophysiology and prevention of abdominal strokes.

Keywords
Adhesive disease, laparoscopy, antiadhesion barriers, bioelectric stimulation.

Жабыспа ауруы (Әдеби шолу)

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Аңдатпа

Іш қуысының жабыспа ауруы - іш пен кіші жамбас қуысына жасалған операциялардан кейін ең жиі кездесетін асқынулардың бірі болып табылады. Бұл асқыну өз кезегінде бедеулікке, іштегі созылмалы ауру сезіміне және ішек өтімсіздігіне алып келеді.Лапароскопия бүгінгі таңда іш қуысы мүшелерінің хирургиялық ауруларына операция жасауда «Алтын стандартқа» айналды. Лапароскопиялық хирургия «ашық» хирургиямен салыстырғанда бірнеше басымдыққа ие, оның ішінде тез сауығу, госпитализация күндерінің қысқаруы, операциядан кейінгі ауру сезімінің азаюы, сонымен қатар косметикалық басымдылықтар. Хирургияның осы саласының технология жағынан одан әрі жетілуі, заманауи әдістердің жасалуы және арнайы лапароскопиялық дағдылардың игерілуі - іш қуысына жасалатын операциялардың спектрін одан әрі кеңейтті, мысалы интракорпоральді тігістер мен аностомоздар салу және т.б. Операциядан кейінгі жабыспалар ішастардың абберантты жазылуымен тікелей байланысты және ішек өтімсіздігіне алып келетін негізгі себеп болып табылады. Қазіргі уақытта жабыспалардың алдын алуда антиадгезионды барьерлер кеңінен насихатталуда. Зерттеу нәтижелері көрсетіп отырғандай, адгезия түзілуін тежеу ішек анастомоздарының жазылуына кері әсерін тигізбейді. Ал анастомоздардың дұрыс жазылмауы іш қуысында антиадгезионды барьерлердің болуына қарамастан жабыспалардың түзілуіне алып келеді. Ұсынылып отырған шолуда іш қуысы мүшелері жабыспаларының патофизиологиясы және алдын алу туралы тыңдеректер келтірілген.

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Спаечная болезнь (Обзор литературы)

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Аннотация

Спаечная болезнь брюшной полости является одним из наиболее распространенных осложнений после операций на брюшной полости и малом тазу. Это осложнение, в свою очередь, приводит к бесплодию, хроническим болям в животе и кишечной непроходимости. Лапароскопия стала «золотым стандартом» для хирургии органов брюшной полости. Лапароскопическая хирургия имеет ряд преимуществ перед открытой операцией, включая быстрое выздоровление, сокращение дней госпитализации, уменьшение послеоперационной боли, а также косметические приоритеты. Дальнейшее совершенствование этой отрасли техники, разработка современных методик и развитие специальных лапароскопических навыков - расширили спектр операций на животе, таких как построение внутрикорпоративных швов и анастомозов. Послеоперационные спайки являются основной причиной кишечной непроходимости. В настоящее время противоспаечные барьеры широко распространены в профилактике спаек. Исследования показывают, что приверженность адгезии не оказывает неблагоприятного влияния на кишечный анастомоз. В обзоре представлена информация о патофизиологии и профилактике спаечного процесса брюшной полости на современном этапе.

ОБ АВТОРАХ

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Ключевые слова
Спаечная болезнь, лапароскопия, противоспаечные барьеры, биоэлектрическая стимуляция.

Introduction

The abdominal cavity is the collagen «bubbles» formed as a result of the fibrin deposition between the serum of the inner organs and the parasitic intestine. Peritoneal adhesions is one of the most common complications encountered after abdominal surgery and is a serious problem for clinicians and competitors. The appearance of adhesions occurs in 55-100% after surgery, according to literature (1).

From a clinical point of view, these peritoneal adhesions are the cause of up to 30% of mechanical intestinal obstruction (2). Currently, peritoneal adhesions make 1% of all hospitalization. Fibrin excretion, activation of the fibrinolytic system, increased cytokine stimulation and increased proliferation of fibroblasts are of fundamental importance in the formation of adhesions. Therefore, any pharmacological and technological recommendations aimed at controlling or controlling the formation of peritoneal adhesions should take into account modern pathogenesis and pathophysiology of adhesion formation (3).

It is well-known that the most effective way to prevent abdominal cramping is to focus on the advanced surgical technique, which is to minimize the injury of the teeth by means of minimally invasive methods, to provide timely hemostasis, to remove the most comfortable threads and prosthesis, tissue infections and tissue removal. Some surgeons are currently experimenting with the ingestion of various medicines (fibrinolithic, anticoagulants, antibiotics, anti-inflammatory drugs, lipid compounds, silicone, dextran, carboxymethylcellulose, hyaluronic acid, etc.). And some experts highly appreciate the effectiveness of barriers to various endogenous (large fat, peritoneal transplantants, fetal membranes, etc.) and exogenous (gelatin, oxidized cellulose, photopolymer gels, membranes and absorbent materials).

Postoperative adhesions

Postoperative adhesions are directly related to several adaptive factors. The first is a member of the operation. For example, after the operation of the uterus and the small intestine, the appearance of adhesion is 60-100%, and the adjuvants after the ovaries, the duodenum and pancreatic surgery are approximately 25% (2). The main reason for these differences is that the serum layer of intraperitoneal members and the presence of intestinal integrals in different sizes. The integral is Sa2 + - the dependent molecule - the only factor that leads to cell adhesion to extracellular matrix. The physiological dimension of entegrins is found to be higher in the serous layer of the small intestine than other internal organs. That is, tissue damage of these organisms will surely lead to the development of the adhesions (24). However, in the postoperative adhesion, there is a need to further investigate the cause of

this factor. The type of operation has its own effects in the formation of fibrosis (24). For example, the most extensive operations are performed primarily in emergency surgery, and the likelihood of large-scale adhesions after these operations is very high. The development of laparoscopy has reduced not only the technical innovation in surgery but also to the development of adhesions by up to 50% compared to open surgery (25,31). The materials used during the operation also contribute to this process. For example, the use of monofilaments can significantly reduce the likelihood of adhesion. In inflammation, however, there is a high probability of occurrence of inflammation in the area near large stranded diameters (32,33). Comparative studies have also been conducted between the absorbing and absorbing threads, but the information in different literature is contradictory. Therefore, based on the above information, it is desirable to use a monofilament threaded thread to reduce the likelihood of adhesion formation. Titanium-coated clamps are biologically inert, that is, aggressive effect on tissues (34), which in turn reduces the development of adhesion. Another important problem in preventing adhesions is to work with internal organs with high accuracy. (35) Prevention of accidental visceralisation. Drainage tubes after the operation of the cavity also cause inflammatory response from the body as a foreign body and should be used only in the most appropriate it must be strictly restricted in time (no more than 48 hours). At the same time, the requirements (flexible, soft, calibrated thin, silicon) must be consistent with the requirements (35). Hemostases during the operation should be timely and thorough. These facts have the most important place in the development of adhesive. Unfortunately, even if the above requirements are met, there is no guarantee that the adhesion will not occur because the adaptive factors that lead to adhesion in each patient are different. For example, the balance between fibrinogenesis and fibrinolysis in the body (36-38).

Modern stroke prevention strategies

The need for postoperative adhesions is very high for human beings. For example, in the United States annually about 440,000 abdominal adhesive stroke operations are performed, and it is associated with a significant risk to the health of the patient. Annually, this pathology costs $ 1.2 billion (1,2,24). The preconditions for the formation of adhesion depends on a particular patient. In fact, nutrition, diabetes, and infectious diseases can change the function of leukocytes and fibroblasts, which increases the likelihood of adhesion development several times. In the study of ways to prevent the development of the brain, several methods and pharmacological drugs have been commonly used. The most important of them are:

- further improvement of miniinvasive surgical methods;
- reduction of abdominal cavity trauma during surgery;
- application of additives in the prevention of adhesions;

Postoperative adhesions develop only when the two stomachs of the abdomen are damaged or in the abdomen when they have blood vessels, inflammatory exudates (serum, purulent exudates, fibrin). Careful manipulations during operation, thorough hemostasis and sanation considerably reduce the appearance of adhesion. At the same time, the thighs at the opening of the abdomen should not be excessively large. Adjuvant therapy - preventing adhesion from entering the inflammatory region by injecting drug. Currently available pharmacological drugs can be classified as non-inflammatory agents that are not immediate. These preparations slow down the activity of cyclooxygenases by modifying the normal metabolism of arachidon acids and reduce the synthesis of prostaglandins and thromboxane. They in turn reduce the vascular permeability and aggregation of platelets, increase the activity of macrophages and prevent the formation of adhesion (39).

Glucocorticoids and antihistamine preparations

Glucocorticosteroids reduce the vascular permeability by reducing the systemic inflammatory response of the body and increases the separation of cytokines and hemotaxial factors. These medications have yielded few results in the prevention of adhesions (40). Corticosteroids, such as dexamethasone, hydrocortisone and prednisolone, were tested and tested separately, along with antihistamines, such as promethazine (41). Antihistamines, combined with glucocorticoids, inhibit the proliferation of fibroblasts, which in turn prevents the growth of the adhesions. However, these drugs have side effects, such as immunosuppression or retardation of wound healing, so they are used with caution nowadays (42).

Progesterone

There are several sources in the literature on the reduction of pneumothoroholdosterone acidosis. But when introducing acetate into the muscle or peritoneal to people, the frequency of occurrence of adhesions has increased immediately (43).

Anticoagulants

After the operation, the abdominal cavity is susceptible to isotonic crystalloide with heparin sulphate, and there is a significant slowdown in the growth of the adhesion, which is due to fibrin

coagulation inhibition. However, heparin, in turn, has a negative impact on the profuse bleeding and the postoperative wound healing. Treatment with a small dose of heparin (2500/5000 unit / l) did not produce any positive effect on the adhesion (44).

Fibrinolytics

Fibrinolytic agents may cause severe complications, such as bleeding, but it has been known that adhesion is inhibited when recombinant species are used locally in animals (45). For example, the use of recombinant tissue plasminogen activator (rtPA) in the prevention of plasminogen is a promising approach. The effectiveness of rtPA is shown in several scientific studies, such as the reduction of the activity of recombinant tissue activator of plasminogen - can play the role of pathogenic factor in the development of adhesion. In experimental animals, this activity was reduced by the use of thermal or mechanical injuries and ischemic effects. This, in turn, has resulted in the development of adhesions. The introduction of rabbits in the rabbits revealed a tendency of adhesion development. The main purpose of this research was to determine the safety and efficacy of these drugs for the organism when applied to rtPA. Animal clinical trials and studies have shown that this pathway can not be a complete barrier to the safety and efficacy of the route and the postperative adhesion development (46).

Antibiotics

It is known that antibiotics with broad spectrum effects are used to prevent postoperative infections and adhesions. However, antibiotics included in the right abdominal cavity are contraindicated in the development of adhesion - have been proven in studies and are therefore not recommended to be used as prevention agents (47).

Barber

Currently known antihistamines are mainly divided into two groups: macromolecular liquid barriers and mechanical barriers. As for the fluid, the absorption of isotonic solutions and electrolytes in the abdomen is rapidly absorbed, for example, 500 ml of sodium chloride solution absorbed within 24 hours. Considering that the resorption of mesothelial membranes should take about 5-8 days, crystalloid solutions should be well absorbed until the fibrin deposition and adhesion develop. However, studies by foreign scientists have shown that 80% of patients who have taken crystalloid solutions as prophylaxis in the abdomen appear to have clingy (24, 32, 33). Moreover, after the laparotomy, fluid left in the abdomen promotes the development of infection. In experimental animals, including the isotonic solution in the abdominal cavity from 1 to 10 l, their fever increased to 20-60%. Given that the abdominal cavity moves to ph acid, it is important to select an irrigation solution (37). For example, Ringer's lactate solution is safe, inexpensive, it is a buffer fluid rather than a simple and physiological solution. It has been established that the introduction of the solution into the abdominal cavity leads to the development of adhesion growth (48). The mechanism of action is still unknown, yet no scientist has proven it. However, there are several assumptions that, in particular, Ringer lactate solution retains the physiological condition of the cavities, and this fluid absorbs the abdomen from fibrinous exudates, thereby reducing the activity of the fibroblasts. However, it has been established that the solution is quickly absorbed by the stomach and can not be a barrier to the formation of adhesive. Further information is available from the use of dekstran 70 solution for the prevention of adhesions. When the structures in the abdominal cavity were hydrophlosed with this solution, the hemoglobin layers separated from each other without any injuries (49). The dextran in the abdominal cavity reduces the local concentration of fibrin, retains the plasminogen's local activator, and impedes the expression of polymorph and nuclear neutrophils, which are adhesion molecules. The dextran is slowly absorbed in the abdomen, while it absorbs extracellular fluid in the abdomen (42-44). However, in deeper studies of this fluid, the frequency of adhesion growth has not been significantly reduced. Also dangerous side effects such as ascites, weight gain, accumulation of natural fluids (pleura, pericardium, etc.), gastrointestinal ulcers, DWS syndrome, and anaphylactic shock have been identified. The high molecular weight dextran (dextran 3270) However, negative results were found in the research. Hyaluronic acid is known as glycosaminoglycan, which is the main ingredient of cellular matrix, including connective tissue, skin, cartilage and synovial fluid. It is acidic bioavailability that has no toxic effect on the body and is easily digested by natural ways and is a negative charge in acidic environment, such as carboxymethylcellulose.

Hyaluronic Acid protects against serum, and protects it against various damages. However, these acids are mainly used in the clinic with phosphate buffer physiological solutions to prevent adhesions after fatigue damage. In pharminite, these additives are known as Sepracoat® trade names. The Sepracoat® is used at the beginning of the operation to prevent abdominal damage before opening the abdomen. Animal studies have shown that this substance has significantly reduced the rate of growth of the adhesions by reducing some of the intestinal damage. Randomized trials on patients also showed positive results, ie the rate of adhesion was

significantly reduced in patients with abdominal CT surgery (50). Carboxymethylcellulose is a cellulose derivative that has a negative charge under normal pH and has a rapid digestion. The systemic clearance is lower than that of hyaluronic acid, but is rapidly exposed to metabolism. Its main mechanism of action is not to stick to the damaged area and the whole region of the intestine, thereby avoiding pareto-visceral adhesions.

An important issue in the prevention of adhesions now is the limitation of the damaged area of visceral plaque on the end of the operation. It can be carried out by means of the motorway swing or synthetic barriers. As practice shows, it is known that microsurgical applications of the affected areas can be prevented through adhesions. The advantage of synthetic barriers over autotransplant is that it does not require additional surgical intervention such as autotransplant detachment from healthy ticks and does not require additional seams.

At present, many natural and synthetic barriers are used to reduce the formation of adhesion in the subunit substitution zone. Natural barriers include butter, fatty oil, amnion film, and even chorionic fibers (51).

And synthetic materials include polyvinyl alcohol and film tantalum. In recent times, interest has been driven by mechanical barriers, which are left abruptly for the barrier to separate the parasites and internal organs at the end of the operation. Such bars are known in the pharmaceutical industry as Gelfilm @, Gelfoam @, Silastic @, Gore-Tex @, Interceed @, Seprafilm @, Gore-Tex @. Barriers like polytetrafluoroethylene are hypoallergenic, nontoxic, antithrombogenic, thereby reducing the migration of fibroblasts and reducing the adhesion process. But this method can be used only in pure, aseptic surgery (52).

Randomized studies have shown that polytetrafluoroethylene is particularly effective in preventing the postoperative myomectomy, as well as the adhesion of the lateral walls of the abdomen than Interceed. Application of polytetrafluoroethylene in laparoscopic expansions requires complicated action. In addition, this material should be sutured to the body and it should be surgically removed after a certain period of time as it does not absorb. Polythmathanol is a material that is resistant to the reaction of the organism, and this property leads to the morphological changes of the intestine nearest to it, and pseudo-capsules are formed soon afterwards. These materials are used as a pericardial plaque in cardiovascular surgery (54).

In the removal of polytetrafluoroethylene, viscera can not guarantee the appearance of defects in the stems, bleeding from teeth, incomplete hemostasis. Therefore, clinicians are skeptical about the effectiveness of these materials. Interlude ORC (oxidized regenerated cellulose) is currently one of the most effective methods for the prevention of adhesions, in particular barriers, which cause physical barriers to the damaged and healthy contaminants, thereby reducing the adhesion between them. In the affected area of the intestine it becomes gel within 8 hours after insertion (55). Clinical observations have shown that Interguste ORC can absorb bleeding in the bloodstream, resulting in the formation of fibroblasts along the bloodstream and leads to collagen formation.42 These changes are the prerequisites for adhesion, suggesting that the barrier may have a non-adherent appearance. In order to be effective, it is important to have a hematopoietic hemostasis and use a wide range of barrier. If the hemostasis is not complete, the barrier becomes dark or brown-black. In this case, the barrier will be removed and reconstructed thorough hemostasis. Seprafilm (carboxymethylcellulose) is a non-toxic and hypoallergenic organism, one of the most effective ways to prevent postoperative massive adhesions. In the course of the operation, the barrier is converted into hydrophilic gel within 24 hours after being placed in the veins and maintains a protective layer in that region for up to 7 days. The barrier components, however, are completely out of the body after 28 days. Interlace ORC is more likely to be used for bariers even if they are in the bloodstream. Decrease postoperative sealant reduces the adhesion to 50%, and the overall adhesion development rate to an average of 400% compared to the control group. According to the results of the research, the rate of postoperative paralysis and the high incidence of growth of the adhesion between the fat, gastric, small intestine, abdominal wall and bladder has been significantly reduced. In some sources, information on pulmonary arthroid thromboembolism and peritoneal abscesses is presented in patients using these barriers. However, the statistical significance of these data is very low, and the mechanism of development of these complications has not yet been studied (56). Minimally invasive surgery is important in preventing adhesions. For example, the use of laparoscopic surgery and miniinvasive therapy in the treatment of adhesions has proven its superiority in practice. In particular, laparoscopic separation of adhesions compared to laparotomy has reduced the incidence of stroke by 50%. Another important issue is the unhealthy adhesion of the abdomen to the patient, as the research of foreign scientists in recent years has shown that the main cause of discomfort is neo- genesis of sensitive nerve fibers in adhesions (57-60). Sensor peptides were also found in the adhesive structure after the operation in the thorax and the pelvic cavity (61-63).

Conclusion

Postoperative adhesion processes in the abdominal cavity are commonly referred to as complications after abdominal surgery and are known to reduce the efficacy and the quality of life of the patient. It is well known that such short-term and long-term complications, such as intestinal acute malformations, abdominal pain, and infertility, are the result of these adhesions. So far, the only and most reliable treatment method for the emerging adhesions is surgical adhesion. But at the same time, the likelihood of recurrence of adhesions is very high and often requires radadysis. While there is considerable progress in modern medicine, the range of prophylactic steps is limited and the most important factor is the prevention of stroke. In general, modern science research focuses on the two main areas of the anti-adolescent strategy: First, the new concepts of immunomodulation, leaving the mechanical barrier to the abdomen and the other at the end of the operation. Clinical data about the use of anti-depressive barriers are still unclear. Immunomodular methods still require thorough research.

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CURRENT STATUS OF CADAVERIC KIDNEY TRANSPLANTATION IN KAZAKHSTAN

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Abstract

Transplantation of organs saves thousands of lives annually all over the world. Of all kinds of transplantation of organs the most well-developed, as in whole world so as in Kazakhstan, is kidney transplantation. Increasing number of patients, seeking for kidney transplantation lead to shortage of donors. In whole world there is a common problem of shortage of donors in different grades. According to local social, ethic, religious and other considerations deceased donor transplantations and living donor kidney transplantations are developed diversely.

Keywords
kidney, transplantation, deceased-donor, Kazakhstan.

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Аңдатпа

Орган трансплантациясы жыл сайын дүниежүзінде мыңдаған өмір құтқарып жатыр. Орган трансплантациясының дүниедегі және де Қазақстандағы ен дамыған түрі бүйрек трапснплантациясы болып саналады. Бүйрек трансплантациясы күтіп жүрген науқас саның көбеюі донор жетіспеушілігін туғызды. Дүниежүзі бойынша донор жетіспеушілігі проблемасы бар Социальді, этникалық, дині және де басқа да көзқарастар мен байланысты түрлі мемлекеттерде мәуіттік донордан немесе тірі донордан бүйрек трансплантациясы түрлі дәрежеде дамыған.

Түйін сөздер
трансплантация, бүйрек, мәуіттік донор, Қазақстан.

Современное состояние трансплантации трупной почки в Казахстане

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Аннотация

Трансплантация органов ежегодно спасает тысячи жизней по всему миру. Из всех видов трансплантаций органов наиболее развитым как во всем мире, так и в Казахстане является трансплантация почки. Стремительное увеличение количества пациентов, нуждающихся в пересадке почки привело к нехватке доноров. По всему миру существует проблема донорства в разной степени. В зависимости от социальных, этнических, религиозных и других соображений в разных странах в различной степени развиты трупное донорство и трансплантация от живого родственного донора.

Ключевые слова
трансплантация, почка, трупный донор, Казахстан.

Introduction

Cadaveric donation allows effectively solve the problem of shortage of donor organs. Kidney transplantation is financially effective in contrast to hemodialysis. In USA annual expenditure for one patient on hemodialysis is 87000 dollars whereas for one patient with kidney transplantation – 29000 dollars (1, 2, 3).

1-year kidney graft and patient survival from deceased-donor is 73,5% and 88,2%, respectively. Whereas 5-year kidney graft and patient survival from deceased-donor is 58,8% and 61,7 %, respectively (4).

Life-span of patients after kidney transplantation is longer in contrast to patients on hemodialysis. Kidney transplant patients at the age of 55 live 10 years longer more than patients on hemodialysis (5, 6).

In an attempt to improve cadaveric donation, criteria for donor selection were expanded. Such criteria as age and concurrent disease were now reconsidered.

Thus, according to clinical trials there were no significant differences in rates of 1-, 3- and 5-year graft survival from deceased – donors below and over 50 years old, 95% vs 90%, 65% vs 60% и 40% vs 35%, respectively (15).

Results of 21 kidney transplantations from extended criteria deceased-donors with concurrent diseases were investigated (hypertension, diabetes mellitus). According to the follow up for 11 months, mean creatinine level was 1.59 +/- 0.63 mg/dl. In 10 patients was delayed graft function. In 11 patients was biopsy proven acute tubular necrosis. In 7 patients there was an acute graft rejection reaction, of them 6 cases were managed by anti-rejection treatment (16).

According to the data from Republic Center for coordination of transplantation and high-technology medical services currently there are 2575 people on waiting list for kidney transplantation in Kazakhstan. Of them, 2528 are adult patients, 47 – pediatric patients. From 2012 to 2017 years there were performed 1019 kidney transplantations in Kazakhstan. Of them, 885 from living related donor and 134 from deceased-donor (19).

In other countries the situation is the same. In 2015 there were performed 84.347 kidney transplantations in 89 countries in the world (7), whereas according to the data from Organ Procurement and Transplantation Network, at the beginning of 2018 there were 95,354 people on waiting list. Mean duration of waiting time for kidney transplantation of patients in hemodialysis is 5-10 years. Unfortunately among this period there is a gradual increase of risk of mortality and concurrent diseases.

Thus, despite the annual increase in rates of kidney transplantations, number of patients necessitating kidney transplantation just increasing. Being an Asian country where traditionally there are 5 and more people in family, there is a good opportunity to improve living organ donation. But in reality even on preoperative evaluation contraindications for organ donation are not uncommon now even in young patients. Another problem is ethical and religious considerations and decreased willingness to be a donor. This is all sourcing from poor awareness of people. Thus it is of paramount interest to improve deceased-donor kidney transplantation in Kazakhstan.

Material and methods

Literature review of cadaveric kidney transplantation in different countries, legal aspects of cadaveric donation and the ways to improve it.

Results

In Saudi Arabia rates of cadaveric kidney transplantation comprises 35 % of total number of kidney transplantations (8). For instance, in USA cadaveric kidney transplantation comprises 63,1%, in Europe – 69,5%, in Middle East – 30,2 %, South Asia – 19,4 %, in Kazakhstan – 13.1 %, in Africa - 6,2%, respectively (9).

Discussion

Legal aspect of regulation of cadaveric donation is consent of patient.

Table 1
Comparative Evaluation of Organ Donation and Transplantation System.

System	Advantages	Drawbacks
Informed consent	• No moral and ethical problems	• Slow increase of donation rate • False negative (the kidney donation cannot be proceed if no informed consent made though the individual want to donate)
Presumed consent	• Significant increase of kidney donation	• Moral and ethical questions • False positive (the transplant authority may take organ against donor's will)
Financial incentives	• Reduce financial burden of the donor and the family • A potential to increase kidney donation	• Moral and ethical questions • Against some religious views

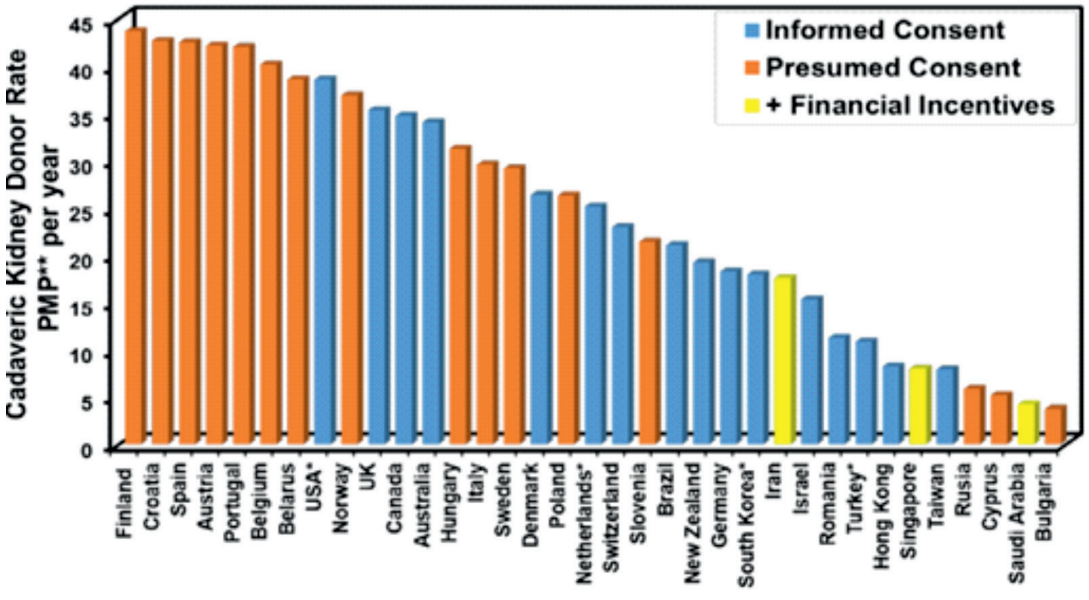

Table 2
Kidney Donation Rate from Deceased Donor in 2016. Source: The International Registry of Organ Donation and Transplantation28.
*2015,
** per million population.

In such countries as Japan, USA and Great Britain people give informed agreement for donation in case of death. This is called informed consent ("opt-in" system). In contrast, in European countries and in Kazakhstan, if a person during his life does not give official refusal for organ donation, in case of death he is considered as cadaveric donor. This is called presumed consent ("opt-out" system). Nowadays despite the illegality of organ purchasing in some countries such as Iran, Singapore, Saudi Arabia financial incentives for the relatives of donor are now being considered (10) Table 1 . For instance, in Pakistan 50 % of cases of donations are paid donations. In Saudi Arabia government pays a compensation for about 50000 riyals (13000 dollars) to the family of deceased-donor, in order to support psychologically and reimburse funeral expenditure (17). In Singapore government subsides 50 % of expenditure on medical care to the family of deceased-donor during 5 years (18). Table 2.

Discussion

In Asia, presumed consent was first introduced in Singapore in 1987 (11), in Republic of Kazakhstan in 2009r. In practice, there are 2 types of presumed consent: hard or soft, which relates to how far the family's consideration is placed (15). Transplant team in countries with hard presumed consent, such as Austria and Singapore, is likely to remove organs from a deceased donor without asking the family's view. Spain and Kazakhstan have been practicing a soft presumed consent in which the medical staff is urged to consult with the donor's family prior the organ removal (12).

Table 3 shows statistical data of organ donation rate and public attitudes in some European countries.

It obviously showed that countries with high level of donation rate (such as Netherlands and Spain) tend to have higher level of willingness to donor and willingness to give consent to other family member to donate (>50%), regardless the system practiced in those countries. On the contrary, countries with low level of such public attitudes toward organ donation (such as Romania and Bulgaria) have low donation rates. Those suggest that there is a linier relation between public attitudes and organ donation rate.

According to the Eurobarometer survey in 2010, the low level of public attitudes is influenced by several reasons which are dominated by the lack of public trust in the organ donor and transplant system and the fear of manipulation of human body. Public distrust of the system leads to an increase

Country	Legal System	Otgan Donation Number* per year (PMP)[37]	Willingness to donor %)[38]	Family's willingness to consent organ donation[38]
Netherlands	Informed Convent	56,1	64	62
Romania		13,3	31	34
Spain	Presumed Consent	49,74	61	59
BnJsana		5,31	42	44

Table 3
Statistical data of organ donation rate and public attitudes

number of the unwilling organ donor and a protest against presumed consent system in Russia (13, 14). To promote and improve the public awareness on organ donation and transplantation, educational campaign is a vital approach. Studies showed that the more the public is informed about the various aspects of organ donation and transplant, the higher the public awareness (20, 21). The public distrust is also the same in Kazakhstan. People have a fear of manipulation with their body, suspecting commercial intents of transplant team. The willingness of relatives to consent organ donation is also very low, because of ethical and religious considerations. People have very poor imagination of how donor organs can be helpful for the patients that are at high risk of mortality.

Conclusion

Thus, in order to increase the rates of cadaveric kidney transplantation it is necessary to inform the public to increase their awareness, elucidate the problems of the shortage of donor organs, the rates of mortality of patients on waiting list, to clarify the work of transplant team, introduce the clarity about social, ethical and religious aspects of organ donation.

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SURGICAL TREATMENT OF MIRISZY SYNDROME IN PATIENTS WITH EXCESS BODY MASS

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Abstract

The results of treatment of 25 patients with cholelithiasis, complicated by Mirizzi syndrome type III and IV, were studied. There were 6 men (24%) and 19 women (76%), 1: 3. The age of the patients ranged from 41 to 78 years. The average age of patients was 63.4±3.4 years. Of these, 14 (56%) patients were overweight: obesity degree I - 7, obesity degree II - 5, the degree of obesity III - 2. All patients were hospitalized as an emergency. All patients were divided into 2 groups depending on the method of elimination of hepatico-holedochus wall defects. The first group - 15 (60%) patients who underwent cholecystectomy, drainage of the common bile duct through the fistula defect by Kerr, hepaticojejunostomy with inter-intestinal anastomosis by Brown (with Shalimov's plug) and Roux (additional drainage by Felker) to the resulting loop. The second group - 10 (40%) patients who underwent cholecystohepaticco-choledochoplasty with P-shaped interrupted sutures on the drainage by Vishnevskiy and hepaticojejunostomy (modelling of Roux technique) using the method of the University Hospital of Semey Medical University. Patients with alimentary obesity - Grades II-III are operated on with the use of "Universal delator Aimagambetov for patients with overweight". Analysis showed us the reduction of postoperative complications in the second group of patients, which allows us to recommend this method as one of the options of choice for the correction in the treatment of Mirizzi syndrome III and IV types.

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Keywords
cholelithiasis, Mirizzi syndrome, hepatico-choledochoujunostomy, cholecystohepaticco-holedocho-plasty

Артық дене салмағы бар науқастардағы Мириззи синдромының хирургиялық емі

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Аңдатпа

Өт –тас ауруының (ӨТА)асқынуынан туындаған Мириззи синдромының III және IV типіндегі 25 науқастың емінің қорытындысын талдау. Олардың ішінде ер адамдар 6 (24 %) науқас, әйел адамдар 19 (76 %), ара қатынасы 1:3тең. Науқастардың жас шамасы 41-ден 78 жасқа дейін. Науқастардың орташа жас шамасы 63,4±3,4.Оның ішінде 14 (56%) емделуші артық дене салмағына ие болды: I дәрежелі семіздік – 7, II дәрежелі семіздік – 5, III дәрежелі семіздік – 2. Барлық науқастар ауруханаға шұғыл түрде госпитализацияланды. Барлық науқастар гепатохоледох қабырғасының ақауларын жою әдісіне байланысты 2 топқа бөлінді. Бірінші топта – 15 (60%) науқас, оларға келесідей ота жасалынды: холецистэктомия, Кер бойынша холедохтың жыланкөз ақауын дренирлеу, әкелуші ішекте Брауш бойынша (Шалимов бекітпесімену) және Ру бойынша (қосымша Фелькер бойынша дренирлеу) ішек аралық анастомоз және гепатикоеюностомия жасалынды. Екінші топта – 10 (40%) науқас, Семей мемлекеттік медицина университетінің университеттік госпиталінің клиникалы әдісі бойынша гепатикоеюноанастомия (РУ әдісі бойынша модельдеу) және Вишневский дренажында П- тәрізді түйінді тігіспен холецистогепатикохоледохопластика жасалынды. Алиментарлық семіздік – II - III дәрежелі емделушілерге «артық дене салмағымен ауыратын науқастарға арналған Аймағамбетовтің әмбебап жарақат кеңіткішін» пайдалану арқылы операция жасалды. Талдау көрсеткіші бойынша екінші топтағы науқастарда операциядан кейінгі асқынулар төмендеген. Соған байланысты Мириззи синдромының III және IV типінде емдеу әдісін коррекциялау мақсатында, бұл әдісті нұсқалардың бірі ретінде ұсынуға болады.

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Хирургическое лечение синдрома Мириззи у больных с избыточной массой тела

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Ключевые слова

желчнокаменная болезнь, синдром Мириззи, гепатикохоледохоеюностомия, холецистогепатикохоледохопластика, избыточная масса тела и ожирение.

Аннотация

Изучены результаты лечения 25 больных с желчнокаменной болезнью (ЖКБ), осложнившейся синдромом Мириззи (СМ) III и IV типа. Из них мужчин было 6 (24 %), женщин 19 (76 %). Возраст пациентов варьировал от 41 до 78 лет. Средний возраст больных 63,4±3,4 года. Из них 14 (56%) пациентов имели избыточную массу тела: ожирение I степени – 7, ожирение II степени – 5, ожирение III степени – 2. Все больные госпитализированы в экстренном порядке. Пациенты были разделены на 2 группы в зависимости от способа ликвидации дефекта стенки гепатикохоледоха. Первая группа – 15 (60%) больных, которым выполнена холецистэктомия, дренирование холедоха через свищевой дефект по Керу, гепатикоеюностомия с межкишечным анастомозом по Браунус заглушкой по Шалимовуи гепатикоеюностомияпо Ру (дополнительным дренированием по Фелькеру) на приводящую петлю. Вторая группа – 10(40%) больных, которым выполнена холецистогепатикохоледохопластика П-образными узловыми швами на дренаже по Вишневскому и гепатикоеюноанастомия (моделирования методики по Ру) по методу клиники университетского госпиталя Государственного медицинского университета г. Семей (УГ ГМУ г. Семей). Пациенты с алиментарным ожирением – II – III степени оперированы с использованием «Универсального ранорасширителя Аймагамбетова для больных с избыточной массой тела». Анализ показал снижение послеоперационных осложнений во второй группе больных, что позволяет рекомендовать этот способ как один из вариантов коррекции выбора при лечении синдрома Мириззи III и IV типа.

Introduction

Currently, there is a parallel progressive increase in the number of patients with complicated forms of cholelithiasis [2,3]. This persistent trend persists over the past years. With an increase in the incidence of gallstones, the number of complications such as choledocholithiasis, obstructive jaundice, cholangitis, and biliary pancreatitis increases [5,9,13]. Among rare complications of gallstones, a special place is occupied by Mirizzi syndrome (SM), which develops with the spread of inflammatory - destructive process from the gallbladder to the bile ducts, resulting in duct compression or cholecystobiliary fistula formation, through which gallbladder stones migrate into the main bile ducts [1-4].

In connection with the progress of biliary tract surgery and an increase in the incidence of gallstones in recent years, interest in this problem has been increasing. In developed Western countries, SM occurs in less than 1% of patients, and in underdeveloped countries it ranges from 4.7 to 5.7% [1, 10,14].

When type III – IV of the SM, most surgeons hold the position that the choledochojejunostomy is necessary [7,11,16]. But with destructive processes in the gallbladder, cholangitis and infiltration of the hepatoduodenal ligament with the spread of the liver in the gate, as well as overweight of the patient together lead to the technical difficulty of isolating the hepatic duct and the formation of hepapikojejunostomy, thus increasing the risk of damage to the elements of the hepatoduodenal ligament, which requires special approach in the method of performing surgical interventions. Thus, today, SM is one of the complications of gallstone disease, in the diagnosis and surgical tactics of which a number of unresolved issues remain. Despite the wide choice of surgical procedures for this syndrome, the results of treatment today are not quite satisfactory. The presence of SM in a patient during surgery increases the risk of intra- and postoperative complications [15,17]. There is evidence that the higher the degree of destruction of the choledoch wall (type II – IV SM according to A. Csendes 1989), the higher the level of postoperative mortality [12,16]. Postoperative mortality ranges from 4.8 to 23.8%. Hepaticoholedochus and residual choledocholithiasis strictures in the late postoperative period were noted in 13–14% of patients [8,14,17]. Difficulties in diagnosing SM, the danger of damage to the bile duct, few observations, as well as a fairly wide range of surgical treatment methods determine the relevance of studying this problem. The introduction of modern methods for the diagnosis of SM and the development of rational surgical tactics depending on the type of syndrome will provide an opportunity to improve the treatment of patients with this complication of cholelithiasis.

Purpose of the study

To improve the results of surgical treatment of patients with Mirizzi syndrome III and IV type.

Methods

The results of surgical treatment of 3842 patients with cholelithiasis (CL), treated in the Semey State Medical University in January 2012 are presented to July 2018. Of these, 25 (0.7%) were diagnosed with SM III and IV type. Type III SM was detected in 14 (56%) patients, Type IV SM –11 (44%). There were 6 men (24%), women - 19 (76%). The age of patients ranged from 41 to 83 years, averaged 63.4 years. Of these, 14 (56%) patients were overweight: obesity grade I - 7, obesity grade II - 5, obesity grade III - 2. The duration of obstructive jaundice in patients ranged from 3 to 19 days.

All patients with complicated forms of cholelithiasis were admitted with a clinical picture of acute calculous cholecystitis and varying degrees of mechanical jaundice. There were 3 (12%) with mild jaundice, 8 (32%) with moderate, and 14 (56%) with severe.

All operations were performed under endotracheal anesthesia. From the upper middle laparotomy, the operation was performed in 5 (20%) patients, from the mini - access using the apparatus of the mini - assistant “League - 7” M.I. Prudkova - in 4 (16%), the universal retractor M.Zh. Aymagambetov, developed in the clinic (patent of the Republic of Kazakhstan No. 90060) - in 9 (36%). Overweight patients 7 (28%) were operated on using the modernized “Universal Retractor Aymagambetov for patients with overweight”. The patients were divided into 2 groups depending on the method of the operation.

Results

The control group included 15 (60%) patients who underwent cholecystectomy, intraoperative cholangiography. At the same time, type III SM was diagnosed in 10 (66.7%) patients. In 4 (40%) of them, the operation was completed by dissociating the fistula between the gallbladder and the choledochus, removing the calculus from the common bile duct and draining the choledochus through the fistula defect according to Kerr; 6 (60%) - completed with hepaticojejunostomy with inter-intestinal anastomosis according to Brown and Shalimov stub on the adductor loop. In type IV SM (5 (33.3%) patients), the operation was completed with the formation of hepaticojejunostomy on the isolated loop of the jejunum according to Roux and drainage according to Felker in 3 (60%) and hepaticojejunostomy on frame drainage, with an inter-intestinal anastomosis according to Brown, with a plug Shalimov on the adductive loop in 2 (40%) patients. It should be noted that of these, 9 (60%) patients were hospitalized as planned without acute inflammatory events.

The main group consisted of 10 (40%) patients who underwent cholecystectomy, intraoperative cholangiography (patent of the Republic of Kazakhstan No. 90500), fibrocholedochoscopy using the conductor developed in the clinic through a fistula orifice. All patients were hospitalized on an emergency basis with symptoms of acute inflammatory changes in the gallbladder and ducts. Developed treatment methods were performed for patients of this group. In SM of Type II (only 4 (40%) patients), one patient was treated with hepaticojejunostomy according to the clinic method (2017 / 0423.1), three performed cholecystohepaticcocholedoplasty with U-shaped interrupted sutures in the Vishnevsky drainage (2017 / 0980.1). In SM IV type (only 6 (60%) patients), four patients received hepaticojejunostomy according to the method of the clinic (2017 / 0423.1), two had cholecystohepaticco-choledoplasty with U-shaped interrupted sutures in the Vishnevsky drainage (2017 / 0980.1).

In the control group - 15 patients who were operated on with the traditional laparotomy access, the following complications were observed: postoperative wound seroma - in 2 (13.3%), choleodynamics (after hepaticojejunostomy and inter-intestinal anastomosis according to Brown) - in 1 (6.7%) patient. 6 months after the removal of the T-shaped drainage along a Keruu, one patient developed a stricture of the hepaticocholedochus, which a month later a hepaticojejunostomy was applied according to the method of the clinic. 2 (13.3%) patients died. The cause of death in one observation was hepatic-renal failure on the background of severe intoxication and purulent cholangitis (on the 2nd day after surgery), and in the second - DIC (on the 2nd day after surgery).

In the main group, in 6 patients who underwent cholecystohepatico-choledochoplasty, postoperative fistulocolangiography was performed on the 7th day, during which the contrast was freely admitted to the duodenum, there was no insolation of the anastomosis. The Vishnevsky drain pipe from the choledoch was removed on the 9th - 12th day. In the main group of patients who underwent hepaticojejunostomy by the method of the clinic, there were no postoperative complications, no fatal outcomes.

Figures 1-4 show how to eliminate the defect of the wall of the hepaticocholedochus.

The method is as follows: after performing atypical cholecystectomy (Figure 1), a loop of 60-80 cm is formed. After the enterotomy, a single-row U-shaped continuous suture is applied to the back lip of the anastomosis (Figure 2). Then, the remain-

ing part of the posterior gallbladder wall intersects at a distance of 2.5–3.0 cm from the edge of the hepaticocholedochus defect, and the crossed edge of the wall adjacent to the defect is mobilized from the bladder bed at a distance of 0.5-0.7 cm, and is superimposed continuous U-shaped suture on the front lip of the anastomosis with 4-0 proleene (Figure 3). The final form of hepaticocholedochaejunostomy is presented in Figure 4.

Discussion

The variety of unresolved problems in bile duct surgery forces the surgical community to discuss issues of biliary duct pathology in the highest surgical forums. The complexity of the surgical intervention for cholecystohepatic-choledochaeal fistulas requires the development of methods for correcting them. Therefore, in search of a solution to the problem of this pathology, we offer the results of our research. The proposed method for the elimination of the hepaticoholedochus wall defect can be the method of choice for surgical treatment of patients with cholelithiasis complicated by Mirizzi type III and IV syndrome. This method allows you to maintain the physiology of bile flow without postoperative complications characteristic of traditional hepaticojejunostomy (failure of anastomotic sutures, stricture of hepaticojejunostomy).

Conclusion

Developed and approved methods of surgical treatment of Mirizzi syndrome III and IV types can improve the immediate and long-term results of surgical treatment of patients with this pathology.

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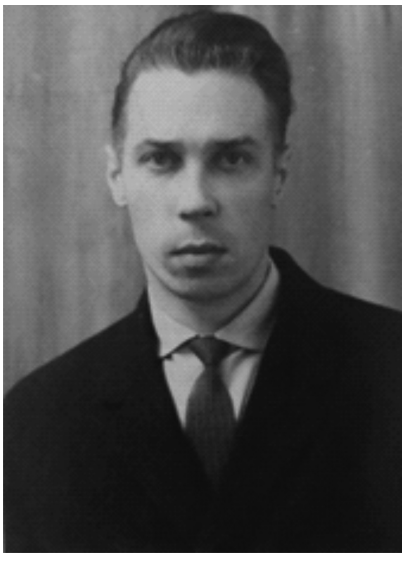
ВОРОНОВ СТАНИСЛАВ АЛЕКСЕЕВИЧ



10 января 2019 года после непродолжительной тяжелой болезни скончался профессор Воронов С.А., заслуженный деятель науки и техники, лауреат Государственной премии Республики Казахстан.

Воронов С.А. родился в г. Нижний Новгород 05 августа 1937 года. В 1961 году с отличием окончил Акмолинский медицинский институт (ныне Астанинская государственная медицинская академия).

Трудовую деятельность начал в клинике города Жезказган врачом хирургом (1961-1964гг). В дальнейшем в 1964 году по рекомендации академика А.Н. Сызганова был принят на работу в клинику Казахского НИИ клинической и экспериментальной хирургии, с которым была связана вся его дальнейшая деятельность, становление как хирурга, ученого и организатора. В данном учреждении он прошел все этапы подготовки квалифицированного специалиста от врача отделения торакальной хирургии до заместителя директора этого института (1985-2010гг).

С.А. Воронов успешно совмещал работу заместителя руководителя института и почетного профессора отделения торакальной хирургии с научной деятельностью за счет требовательного характера к окружающим и не менее строгой самодисциплины. Административная работа не помешала ему заниматься любимым делом. Хирургическая работа продолжалась и вне стен института, профессор проводил консультации и операции в региональных областных и городских больницах республики.

Опухолевые и предопухолевые изменения в легких на основе неспецифического воспалительного процесса в эксперименте были изучены С.А. Вороновым. Результаты этой работы были отражены в кандидатской диссертации, защищённой в 1971 году.

Впервые в Казахстане малый круг кровообращения изучался у больных с хроническими заболеваниями легких с 1965 года, накопление огромного опыта позволило С.А. Воронову в 1988 году успешно завершить работу и защитить докторскую диссертацию на тему: «Кровообращение в малом круге у больных хирургическими формами хронических нагноительных заболеваний легких». За выполнение научной темы «Организация специализированной помощи больным с заболеваниями легких и средостения в Казахской ССР» Станислав Алексеевичу в 1988 году присуждена Государственная премия Казахской ССР.

Профессор Воронов С.А. – автор более 500 печатных работ, посвященных различным актуальным разделам современной хирургии органов дыхания, среди которых 13 монографий, более 60 инновационных патентов. Под руководством профессора С.А. Воронова защищено 35 кандидатских и 7 докторских диссертаций.

За личные заслуги в разработке приоритетных направлений науки и техники в торакальной хирургии Республики Казахстан и успешном внедрений и использований научных разработок в 1998 году был удостоен почетного звания «Заслуженный деятель науки и техники РК.

Светлая память о прекрасном человеке, выдающемся хирурге и мастере своего дела, ученом, организаторе, Учителе, воспитавшего не одно поколение хирургов, останется в сердцах всех, кто работал с ним и знал его.

Редакционная коллегия журнала
Вестник хирургии Казахстана

БИГАЛИЕВ МАДИ ХОЖАЕВИЧ

8 февраля 2019года на 63 году жизни скоропостижно скончался Мади Хожаевич Бигалиев- профессор, главный врач больницы скорой помощи г. Шымкента, депутат Южно-Казахстанского областного маслихата, кавалер ордена «Құрмет», почетный член ассоциации гепатобиллиарных хирургов стран СНГ, член правления Казахстанского общества хирургов.

Мади Хожаевич Бигалиев родился 11 декабря 1956года в Самарской области Российской Федерации, по национальности – казах. Имеет высшее медицинское образование, в 1982году окончил лечебный факультет Алматинского государственного медицинского института. Трудовой путь начал в г. Шымкент, на базе Областной клинической больницы врачом-хирургом, а затем заведующим хирургического отделения №1 этой же больницы. С 1992 по 2000 годы являлся главным хирургом департамента здравоохранения Южно-Казахстанской области. С 20 ноября 2002 года по 19 октября 2007 года главный врач Областной клинической больницы. 2007-2008 годы заведующий кафедрой общей и госпитальной хирургии Южно-Казахстанской государственной медицинской академии. С 2008 года назначен главным врачом Шымкентской городской больницы скорой медицинской помощи.

В 1995году защитил диссертацию на соискание звания кандидата медицинских наук, а в 2008 году им защищена докторская диссертация на тему «Комплексное лечение больных абдоминальным сепсисом и новая концепция оценки их состояния».

В 2011 году ему присвоено звание профессора.

Энергичный и целеустремленный он умело сочетал работу хирурга с организацией хирургической службы, а также научной деятельностью. Он автор ряда научных трудов, им опубликовано 56 статей и 2 учебника, является автором 12 инновационных патентов.

В 2013 году впервые в Южном Казахстане совместно с профессорами Корейского университета была проведена операция по трансплантации почек, этим были внедрены инновационные медицинские технологии в медицину области.

С марта 2013года под непосредственным руководством главного врача Бигалиева Мади Хожаевича на базе клиники Шымкентской городской больницы скорой медицинской помощи выполнено 130 операций по трансплантации почек и 18 операций по трансплантации печени.

За свой вклад в научное и практическое здравоохранение неоднократно награждался почетными грамотами области и Республики, являлся отличником здравоохранения Республики Казахстан.

В 2012 году награжден орденом «Курмет», а в 2014 году удостоен звания «Почетный гражданин г. Шымкент».

За многолетний плодотворный труд и выдающиеся заслуги в развитии здравоохранения биография М.Х. Бигалиева внесена в книгу почетных граждан Республики Казахстан.

Мади Хожаевич врач с большой буквы, заслуживший авторитет своим трудом перед коллективом и населением, примерный семьянин. Отец двух сыновей и одной дочери, любимый дед пяти внуков.

Светлая память о Мади Хожаевиче Бигалиеве навсегда останется в сердцах учеников, коллег и тысяч спасенных им пациентов.

Редакционная коллегия журнала
Вестник хирургии Казахстана

К 80- ЛЕТИЮ ДОЦЕНТА ТРИПОЛЬСКОЙ ГАЛИНЫ ИЛЬИНИЧНЫ

Трипольская Г.И. родилась 7 февраля 1939 г. в г. Ташкенте в интеллигентной семье. Родители отец – Илья Петрович Тикунов, мать – Мария Трофимовна Казакова – государственные служащие, по долгу службы работали в разных городах юга Казахстана, поэтому детство Галины Ильиничны прошло в г.г. Мерке, Шымкенте, Алматы. Школу она закончила в г. Алматы, в 1956 году с серебряной медалью. Долгих раздумий выбора профессии не было, поступать и учиться только на врача, перед глазами был пример ее родственников, Тикунова К.В. - военный врач, погибла на фронте. В семье были врачи разных специальностей, в том числе провизоры. Младший брат Галины Ильиничны, Тикунов В.И. – врач, работал детским хирургом в детской больнице №1 г. Алматы.

Трипольская Г.И. поступила в Казахский Государственный Медицинский институт, который закончила с отличием в 1962 г. и была направлена, по распределению, в областную больницу г. Кзыл- Орда.

Трудовые будни молодого врача начались с работы в хирургическом отделении, с ночных дежурств и самостоятельных оперативных вмешательств в экстренной хирургии.

В 1965 Трипольская Г.И. по конкурсу поступает в аспирантуру на кафедру госпитальной хирургии к профессору Брякину М.И. После завершения серий экспериментальных работ и публикаций, была подготовлена и блестяще защищена кандидатская диссертация в 1968 году, на тему: «Влияние на гемодинамику острого подкрыльцового артерио – венозного шунта в норме и в условиях травматического шока» научным руководителем был профессор Брякин М.И.

После защиты диссертации была принята на кафедру госпитальной хирургии, по конкурсу, где полностью раскрылся ее научно-педагогический и врачебный талант. В клинике совершенствуется оперативная техника и методология, раскрывается педагогический и лекторский талант.

Она работала с ведущими хирургами – профессорами, как: Апсатаров Э.А., Денягина Т.П., Андреев Г.Н., Ибадильдин А.С., Кукеев Т.Г., Кушекбаев М.М., Оспанов А.А., Нокербекова Б.М. В настоящее время, в г. Алматы, продолжают работать ее ученики Амантаева К.К, Кадырбаев Р.В., Кравцов В.И., Мухамеджанов Г.К., Байзакова А.П., Адаменко В.Е.и многие другие во всех уголках нашей родины и СНГ.

В 1975 году Трипольская Г.И. получила звание доцента. Участвовала в заседаниях хирургического общества – Всесоюзных, Республиканских съездах, конференциях, где выступала с программными докладами по актуальным вопросам хирургии. Доцент Трипольская Г.И. была принципиальным и требовательным педагогом. Ее милосердие к больным, доброжелательность к ученикам и коллегам снискали ей заслуженный авторитет не только у широкой медицинской общественности, а также у больных и их родных.

Имеет около 100 публикаций в журналах РК, странах СНГ, соавтор 6 учебников по хирургии, учебных пособий и 4 монографий.

К.м.н., доцент Трипольская Г.И., на всех участках работы, была примером порядочности и интеллигентности, руководила научным студенческим кружком на кафедре, проводила занятия и читала тематические лекции студентам. Связь со студентами не прерывалась и после окончания ими вуза. Она была активным организатором ежегодных встреч своей группы, проработала в Каз НМУ в течении 46 лет.

Врачебная, педагогическая и общественная деятельность доцента Трипольской Г.И. была высоко оценена. Она награждена четырьмя серебряными медалями КазНМУ за заслуги и вклад в образовательный процесс и практическую медицину.

Дочь Трипольской Г.И. закончила школу с медалью и стояла перед выбором поступать в консерваторию или в медицинский вуз. Победила наследственность, поступила в КазНМУ, который закончила с красным дипломом. Продолжает миссию матери, врача с большой буквы, работает врачом-кардиологом в Научно - кардиологическом центре г. Москвы, под руководством академика РАН, профессора Е.И. Чазова.

Супруг - Трипольский В.П., канд.техн.наук, один из ведущих геологов Республики Казахстан, внес неоценимый вклад в создание геологической карты республики, продолжает педагогическую деятельность в КазБТУ.

29 апреля 2016 года, к.м.н., доцент Трипольская Г.И. ушла из жизни на пике творческой и интеллектуальной деятельности. Не стало талантливого хирурга, педагога, ученого, интеллигентного, надежного товарища и коллеги. Вся жизнь Галины Ильиничны была посвящена служению своей благородной професии, своему народу, передаче знаний молодым врачам, студентам.

проф. А.С. Ибадильдин,
проф.Б.М. Нокербекова,
доц. К.К. Амантаева,
доц.Г.К. Мухамеджанов,
к.м.н. С.А. Ибадильдина.

ТРЕБОВАНИЯ
ДЛЯ АВТОРОВ ЖУРНАЛА
«ВЕСТНИК ХИРУРГИИ КАЗАХСТАНА»

Уважаемые авторы!

С 1 апреля 2018 года все статьи на публикацию принимаются на государственном или русском языках с обязательным переводом всей статьи на английский язык. Статьи без версии на английском языке будут отклонены.

Также учитывая требования Консультативной Комиссией (CSAB) Scopus об интернационализации авторов и аудитории редколлегия журналов рекомендуют публиковать статьи в соавторстве с учеными дальнего и ближнего зарубежья.

В журнале публикуются научные статьи и заметки, экспресс-сообщения о результатах исследований в различных областях естественно-технических и общественных наук.

Решение о публикации принимается редакционной коллегией журнала после рецензирования, учитывая научную значимость и актуальность представленных материалов. Статьи, отклоненные редакционной коллегией, повторно не принимаются и не рассматриваются. Рукописи, оформленные не по правилам, возвращаются авторам без рассмотрения.

Рукопись направляется на отзыв члену редколлегии и одному из указанных рецензентов; в спорных случаях по усмотрению редколлегии привлекаются дополнительные рецензенты; на основании экспертных заключений редколлегия определяет дальнейшую судьбу рукописи: принятие к публикации в представленном виде, необходимость доработки или отклонение. В случае необходимости рукопись направляется авторам на доработку по замечаниям рецензентов и редакторов, после чего она повторно рецензируется, и редколлегия вновь решает вопрос о приемлемости рукописи для публикации. Переработанная рукопись должная быть возвращена в редакцию в течение месяца после получения авторами отзывов; в противном случае рукопись рассматривается как вновь поступившая. Рукопись, получившая недостаточно высокие оценки при рецензировании, отклоняется как не соответствующая уровню или профилю публикаций журнала.

Авторы несут ответственность за достоверность и значимость научных результатов и актуальность научного содержания работ. Не допускается **ПЛАГИАТ** – умышленно совершаемое физическим лицом незаконное использование чужого творческого труда, с доведением до других лиц ложных сведений о себе как о действительном авторе.

Редакция принимает на рассмотрение рукописи только на английском языке, присланные через официальный сайт журнала **www.vhk.kz.**

Материал статьи – абстракт на казахском, русском и английском языках, список литературы, рисунки, подписи к рисункам и таблицы, оформляется одним файлом; дополнительно каждый рисунок оформляется в виде отдельного файла. Если пересылаемый материал велик по объему, следует использовать программы для архивирования. Все страницы рукописи, в том числе таблицы, список литературы, рисунки и подписи к ним, следует пронумеровать.

Представленные для опубликования материалы должны удовлетворять следующим требованиям:

1. Содержать результаты оригинальных научных исследований по актуальным проблемам в области физики, математики, механики, информатики, биологии, медицины, геологии, химии, экологии, общественных и гуманитарных наук, ранее не опубликованные и не предназначенные к публикации в других изданиях. Статья сопровождается разрешением на опубликование от учреждения, в котором выполнено исследование.
2. Размер статьи 7-10 страниц (статьи обзорного характера – 15-20 стр.), включая аннотацию в начале статьи перед основным текстом, которая должна отражать цель работы, метод или методологию проведения работы, результаты работы, область применения результатов, выводы (**аннотация** не менее **20** предложений (150»300 слов) - (на английском языке) через 1 компьютерный интервал), таблицы, рисунки, список литературы (через 1 компьютерный интервал, размер шрифта – 14), напечатанных в редакторе Word, шрифтом Times New Roman, поля – верхнее и нижнее – 2 см, левое –3 см, правое –1,5 см. Количество рисунков – 5-10.

Структура должна соответствовать международной формуле IMRAD, где I – introduction (вступление), M – Methods (методы), R – Results (исследование), A – и, D – conclusion+ discussion (заключение, обсуждение результатов и выводы).

Название · Отображает суть работы · Краткое · Без аббревиатур.

Необходимо официально закрепить название организации на английском и сокращение

Резюме · Структурировано · Без аббревиатур · Передает структуру статьи – Зачем (актуальность) – Какими методами? – Что получено – Как это изменило картину знаний. Именно его читают в первую очередь, только хорошее резюме может привлечь внимание!

Вступление · Актуальность работы · Какая задача поставлена · Почему

Методы · Перечисление · Если известные - дать ссылку · Если модифицировали – указать как · Описывать так что б могли повторить · Статистика!

Результаты · Допускается не хронологическое, а логическое повествование · Основные, а не все что были сделаны ·

Иллюстрируются минимально необходимыми сводными данными (исходные могут быть в дополнительных материалах)

Обсуждения • Не повторять результаты • Сопоставить полученные данные с имеющимися • Обсудить возможные причины и следствия

Функции списка литературы: • Аргументировать идею • Сопоставить с существующими аналогами • Обозначить место данного исследования • Избежать плагиата • Для журнала и ученого = признание • Часто указаны только собственные работы или очень старые (самоцитирование допускается только 10-15% от общего списка литературы) • Кочующие ошибки

Различайте • Ссылки • Список литературы • Библиография

Что могут цитировать • Книги, (монографии, главы) • Статьи научных журналов • Материалы конференций • Патенты • Диссертации • Неопубликованные данные • СМИ • Веб ресурсы (протоколы, веб странички) Источник должен быть надежным и легко доступным.

Статья начинается на английском языке. В начале, посередине страницы, идет название статьи прописными жирными буквами, название статьи должно быть коротким и емким, согласно проведенного анализа около 30-40 символов на английском языке.

Далее на следующей строчке – инициалы и фамилии авторов обычным жирным шрифтом, затем на следующей строчке – название организации(ий), в которой выполнена работа, город, страна, затем на новой строчке – адреса E-mail авторов. С красной строки идут ключевые слова **(Key words),** а на новой строчке – сама аннотация (**Abstract** – не менее **150** и более **300 слов**).

Далее, после отбивки одной строки, начинается на русском языке. В начале статьи вверху слева следует указать индекс **УДК, МРНТИ.**

Затем, посередине страницы, пишется: 1) название статьи; 2) авторы; 3) название организации; с красной строки – **Ключевые слова,** затем – **Аннотация** (оформление шрифтов, как на английском языке).

Отбиваем одну строку и начинается сама **статья.** Следом за статьей идет список **Литературы.** Ссылки на литературные источники даются цифрами в прямых скобках по мере упоминания (не менее 20).

Для каждой статьи обязателен DOI (Digital Object Identifier) - это цифровой идентификатор документа. DOI выполняет функцию гиперссылки, которая всегда помогает найти нужный документ, даже если сайт, где он находился ранее, был впоследствии изменен. Благодаря этому индексу поиск научной информации в Интернете стал проще и эффективнее. Каждое издание, журнал размещает на своих веб-страницах в интернете, как текущие, так и архивные номера, и материалы. Таким образом, в открытом доступе можно увидеть резюме, которые включают в себя название статьи, фамилию, имя, отчество автора, аннотацию и ключевые слова, место выполнения работы, а также выходные данные опубликованных статей (название журнала, год издания, том, номер, страница).

Список литературы оформляется следующим образом:

В ссылках на книги указывается ISBN (10- или 13-значный). Сокращаются названия только тех журналов, которые указаны: http://images.webofknowledge.com/WOK46/help/WOS/0-9_abrvjt.html.

Для всех ссылок на статьи, опубликованные в международных рецензируемых журналах следует указывать DOI (Digital Object Identifier). DOI указываются в PDF версии статьи и/или на основной интернет-странице статьи, также можно воспользоваться системой поиска CrossRef: http://www.crossref.org/guestquery/. Ниже приводятся примеры оформления ссылок:

Статья в международном журнале:

1. Campry TS, Anders T. (1987) SNAP receptors implicated in vesicle targeting and fusion, Environ Pollut, 43:195-207. DOI: 10.1016/0269-7491(87)90156-4 (in Eng)

Статья в русскоязычном журнале, не имеющая англоязычной версии:

2. Ivanova TV, Samoilova NF (2009) Electrochemical Energetics [Elektrohimicheskaya energetika] 9:188-189. (In Russian)

Книги:

Timrat TA (2008) Soil pollution: origins, monitoring and remediation, second edition. Springer, Germany. ISBN: 978-3-540-70777-6

Материалы конференции:

Monin S.A. (2012) Treatment techniques of oil-contaminated soil and water aquifers. Proceedings of International Conference on Water Resources and Arid Environment, Riyadh, Saudi Arabia. P.123.

Патенты:

Barin AB, Mukamedzhan NT (2000) A method for determination of 1,1-dimethylhydrazine and nitrosodimethylamine [Metodopredeleniya 1,1-dimetilgidrazina initrosodimetilamina]. Preliminary Patent of the Republic of Kazakhstan [Predvaritelnyi patent Respubliki Kazakhstan]. (In Russian)

Стандарты, ГОСТы:

RMG 61-2003. Indexes of accuracy, precision, validity of the methods of quantitative chemical analysis, methods of evaluation [GSI.Pokazatelitochnosti, pravilnosti, retsizionnosti metodik kolichestvennogo himicheskogo analiza. Metodyiotsenki]. Moscow, Russia, 2003. (In Russian)

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В конце статьи дается резюме на казахском языке. Оформляется аналогично русскому варианту. Посередине страницы пишется: 1) название статьи; 2) авторы; 3) название организации; с красной строки – **Тірек сөздер,** после – **Аннотация.**

Последняя страница подписывается всеми авторами, ставится дата.

3. Статьи публикуются только на английском языке.

4. В случае переработки статьи по просьбе редакционной коллегии журнала датой поступления считается дата получения редакцией окончательного варианта. Если статья отклонена, редакция сохраняет за собой право не вести дискуссию по мотивам отклонения.