



COMPARATIVE EVALUATION OF THE OUTCOME OF TREATMENT OF PATIENTS WITH CAVITY LIVER FORMATION WITH A SIMPLE AND COMPLEX SUBDIAGHRAGMAL POSITION

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Article history:	Abstract:
Received: June 1 st 2022 Accepted: July 1 st 2022 Published: August 6 th 2022	The aim of our study was to study the results of surgical treatment of patients with cavity formations of the liver with its different anatomical location. The results of surgical treatment were analyzed in 37 patients with cavity liver formations. Of these, 26 patients of group I were with cavity formations in the I-IV segments of the liver, which does not require great technical difficulty during the operation, associated with its anatomical location. Group II of the study included 11 patients with cavitory liver lesions with complex anatomical locations of the liver, in which the lesions were located in the VII and VIII segments of the posterior clique of the diaphragm, which caused great technical difficulties in performing the operation due to the difficulty of access to the lesion.

Keywords: Cavitory Formations Of The Liver, Liver Cysts, Liver Abscess.

TOPICALITY.

Cavity formations of the liver (POP) is one of the most urgent problems of modern reconstructive surgery [1, 5]. Often formed as a result of surgical treatment, cavity formations of the liver are fraught with the threat of developing terrible complications: bleeding, the formation of purulent and biliary fistulas, suppuration and breakthrough of the infected cavity into the biliary tract, bronchial tree, into the abdominal cavity, into the subdiaphragmatic and subhepatic space [6]. Residual cavities are a chronic focus of infection in the body [3]. Various techniques have been proposed to eliminate residual liver cavities after echinococctomy. The most famous and often used are cavity capitongage by bringing the cyst closer together with a number of internal sutures (according to Delba) and intussusception of the fibrous capsule protruding above the liver into the lumen of the cyst cavity, followed by fixation of it with nodal catgut sutures (Bobrov-2 method). V. G. Gostishchev et al. [1 2] a method of correcting the residual cavity after echinococctomy was proposed by screwing the edges of the fibrous membrane inside the cavity with nodular catgut sutures. The authors believe that this method reduces the traumatism of the operation and prevents the formation of secondary non-parasitic cysts in the postoperative period. Treatment of the residual cavity by the method of capitongage or screw-in sutures is not safe in conditions of inflammation and destruction of the fibrous membrane or is impossible due to the rigidity of the cyst walls [8, 13,]. Surgical treatment of echinococcal cysts located in the

subdiaphragmatic space is a particularly difficult task. Often, after surgical interventions in this area, non-parasitic cysts are formed [4, 15,]. With subdiaphragmatic localization of the cyst (VII-VIII segments) after echinococctomy, capitongage according to Delba or closure of the residual cavity according to A. T. Pulatov. The residual cyst cavity is treated with various antiparasitic agents (2-5% formalin solution, 80% glycerin solution, 5% iodine solution, 96% alcohol, etc.), as well as cryotherapy and a defocused CO2 laser beam [2].

At the end of surgical treatment, this category of patients is of great importance to the anatomical location of the lesion. With the subdiaphragmatic location of the cavity formations of the liver to the VII and VIII segments of the hirurgi treatment, in contrast to their location to the I-IV segments of the liver, has a number of technical difficulties.

The purpose of our study was to study the results of surgical treatment of patients with cavity formations of the liver with its different anatomical location.

MATERIAL AND METHODS

An analysis of the results of surgical treatment in 37 patients with cavitory formations of the liver was carried out. Of these, 26 patients of group I were with cavity formations in the region of the I-IV segments of the liver, which does not require much technical difficulty during the operation, associated with its anatomical locations. In the II group of the study, 11 patients with cavity formations of the liver with



complex anatomical arrangements of the liver were included, to which the lesions were located by VII and VIII segments of the posterior coscat of the diaphragma, which caused great technical difficulties in performing the operation due to the difficulty of accessing the lesion.

The complex method of treatment of the examined patients included, a general strengthening symptomatic treatment before the operating period. Surgical treatment of all patients was performed by mid-median laparotomy access.

All patients were divided by sex and age according to the classification of age groups adopted

at the regional seminar of the World Health Organization in Kiev in 1963 [83; c. 24-30]. Of the examined patients - 20 (54.5%) men and 17 (45.5%) women aged 19 to 60 years.

The majority of patients (72.7%) were of the most working age (from 20 to 50 years).

Of all the patients examined, 27 (72.9%) patients were admitted to the clinic with the hydrative stage of echinococcus pechena, 7 (18.9%) patients were admitted with suppuration of the residual cavity after echinococctomy of the liver and 3 (8.1%) patients were admitted with an acute abscess of the liver of various etiologies. (Table. 1)

**Table 1 Resource requirements by component
Distribution of examined patients by etiological factor.**

№	Types of diseases	Number of patients	Group of patients	
			I	II
1.	Liver cyst	27 (72,9 %)	20 (76,9 %)	7 (63,6 %)
2.	Residual liver cavity	7 (18,9 %)	4 (15,3 %)	3 (27,2 %)
3.	Liver abscess	3 (8,1 %)	2 (7,6 %)	1 (9,0 %)
	Altogether	37	26	11

All patients on the day of admission were urgently measured body temperature, respiratory rate, an objective study of the liver (palpation, percussion), ultrasound examination and, if necessary, MSCT or CT of the liver and abdominal cavities, conservative general strengthening and symptomatic therapy was started. In patients with residual cavities and abscess of the liver, empirical antibiotic therapy was carried out, followed in the postoperative period, taking into account the sensitivity of microflora.

After appropriate examination and preoperative preparation, traditional surgical interventions were performed in a planned or emergency delayed manner.

Diagnosis of the disease, began with the collection of complaints of the patient, the degree of their severity, the history of the duration of the disease, the analysis of the results of the clinical and objective examination of the patient. During the collection of anamnesis, attention was paid to determining the etiological factors of the development of the disease, the nature and duration of complaints, concomitant and background pathology. General clinical and physical methods of examination were aimed at identifying the exact diagnosis of cavitory liver formations, size, nature and anatomical location.

All patients underwent a detailed general blood test, biochemical blood parameters were determined, a general urinalysis was performed, blood was taken for ELISA or EMF to syphilis, markers of viral hepatitis B and C, antibodies to HIV were determined, an ECG was performed.

When identifying concomitant pathology, patients were consulted by appropriate specialists, specialized examinations were performed.

Microbiological analysis was carried out by taking secretions from the contents of the cavities of the liver during surgery and in the postoperative period from the isolation of the drainage tube with a qualitative and quantitative assessment of the isolated infection, as well as its susceptibility to various antibiotics.

RESULTS AND DISCUSSIONS

Of the 20 patients with echinococcosis of the liver of group I, 3 (15.0%) patients had a parasitic cyst localized in the I segment of the liver, 5 (25.0%) patients were expelled localization of a parasitic cyst to the II segment of the liver, in 5 (25.0%) of the attractions, localization of the echinococcal hand in the III segment of the liver was noted, the rest in 7



(35.0%) of patients with the cyst were localized in the IV segment of the liver.

All these patients were hydatidous echinococcosis barked. Surgical interventions were performed by upper median laparotomy access.

Conducting a retrospective analysis of postoperative complications, depending on the selected access, in patients with hydatidous echinococcosis of the liver, we obtained the following data, which are given in Table 2

Table 2
Incidence of complications from surgical wounds depending on surgical access in the control group of patients

Type of operational access	Number of surgical interventions		Suppuration of the surgical wound		Postoperative hernia		Iatrogenic damage to the liver		Bleeding from cavities	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Upper Middle, Mid-Median laparotomy	21	80,7	-	-	-	-	-	-	-	-
Upper medial laparotomy with extensions below the navel.	5	19,3	1	3,8	-	-	-	-	-	-
Altogether:	26	100	1	3,8	-	-	-	-	-	-

Of the 20 patients with echinococcosis, 13 (65.0%) patients underwent a closed method of capturing the cavity of the echinococcal hand, in 7 (35.0%) patients a semi-closed echinococectomy was performed.

In 6 patients of the control group who were with suppuration of residual cavities and acute liver abscess, respectively, the following tactics were performed:

- after establishing an accurate differentiated diagnosis as a result of anamnesis, ultrasound, MSCT studies and clinical and laboratory data, infusion, detoxification, general strengthening and symptomatic treatment for 1-2 days took place as a preoperative dressing.

After appropriate inhibition, this patient was also given an upper-median or upper-median-median laparotomy. Both patients with residual liver cavity and patients with acute liver abscess performed intraoperative drainage and sanitation of the purulent focus cavity with drainage stops in the cavity which is fixed on the liver capsule with catgut sutures followed by the end of the drainage tube is removed through the contour into the outside and fixed on the skin with silk sutures.

Of the 6 patients with purulent foci of the liver I control group, 1 (16.6%) patients localized the purulent focus in the I and II segments of the liver, in 2 (33.3%) patients were diagnosed with localization of the purulent focus to the III segment of the liver, in 3 (50%) observations, localization of the purulent focus in the IV segment of the liver was noted.

In clinical and laboratory studies of the blood revealed a relatively high level of intoxication rates in patients with suppuration of residual liver cavities and acute liver abscess than in patients with echinococcosis of the liver.

On the day of admission, all indicators of intoxication were significantly deviated from the norm. In the process of preoperative preparation included infusion-detoxification, antibacterial, general strengthening therapy by the 3rd day of treatment that basically coincides on the day of surgery, all indicators were closer to normal, which was the goal of preoperative preparation to improve the outcomes of surgical treatment. In the postoperative period, all these indicators of intoxication except for ESR of the blood by the 7th day normalized. All these patients by 7-8 days are discharged into outpatient observations with drainage tubes in the residual cavities. By 10-13 days, all drains after a control ultrasound examination of the residual cavity were removed on an outpatient basis. At the same time, the size and content of the cavity of the furnace were taken into account. Drains are removed at a size of less than 30 mm without liquid content.

It should be noted that the average duration of operations performed in the control group I was 70 + 8.5 minutes. As noted above, out of 26 operated patients, 1 (1.16%) of the patient had postoperative suppuration of the wound, which, after appropriate treatment, the wound healed by secondary tension. In these patients, intraoperative complications and postoperative hernia were not observed.



Thus, our studies of the control group I showed that in patients with cavity formations, livers with simple anatomical locations when using the traditional method of treatment with the use of upper-median access surgery does not constitute a great technical difficulty and most cases are a successful outcome.

All 11 examined patients of group II with complex anatomical locations of the cavity formation of the hepatic lesion were localized in the region of the posterior koscat of the diaphragm, VII-VIII segments of the hepatic. Of these, 8 (72.3%) patients were with hydatidous echinococcosis hepatic, 3 (27.3%) patients were with purulent foci of hepatic. (2 patients were with suppuration of the residual cavity, 1 with abscess baked).

All patients of group II surgical intervention were performed by upper median laparotomy access. Due to the technical difficulty of access to the lesion, all patients were forced to expand the laparotomic wound to below the navel to 10 cm.

It is known that modern adequate surgical methods of treating echinococcosis of the liver require the completeness of removal of the membranes of the parasite and the sealing of the residual cavity. Treatment of purulent focus of the liver (suppuration of residual cavities, abscess of the liver) requires drainage, emptying of the purulent focus and sanitation of the cavity with antiseptic solutions interoperative and after the operating period, which we also made in the treatment of these categories of patients.

In the surgical treatment of patients with echinococcosis, the liver with a complex anatomical location to the VII-VIII segments of the liver performed a wide upper-middle access bypassing the navel on the left was expanded to 10 cm below the navel. To mobilize the liver, it was necessary to cross the ligaments of the corresponding lobe and carefully demarcate the surgical field.

In almost all 8 patients with echinococcosis VII-VIII segments of the liver, the operation was performed with great technical difficulties. This required bringing the patient's bodies of a special position in a pubic position with a raised lumbar region. Often there was a forced change in the position of the patient during the operation with the lining of an additional roller of the subarmbar region. Obese patients had even more technical difficulties as in mobilization baked, and when performing the main stages of the operation. For maximum mobilization of the baked area of the posterior koscat of the VI-VII segment of the hemen was tamponed with film material. Great difficulties were noted in the opening of the echinococcal cavities, especially after emptying the echinococcal fluid and removing the chitinous membrane, the sanitation and revision of the residual

cavities had great technical difficulties. At the same time, the chief operating surgeon had to perform the main stage of the operation in the remaining small space. between the hands of the assistant who holds the surface of the baked for maximum immobilization and the abdominal wall. Or the first operating surgeon during the main stage of the operation often had to be forced to hold with one left hand mobilizing the liver, with one right hand perform the main stage of the operation. All the highest stated technical complexity of the operation unconditionally increases the great risk of iatrogenic damage to the internal organs during the operation. That was the cause of iatrogenic liver damage in two patients during surgery: there was a rupture of the liver capsule up to 3 cm in size, when mobilized from the hands of the assistant.

In three cases, in order to achieve high-quality operations, they were forced to cross the muscles of the anterior abdominal wall in the transverse direction at the level of the navel to the right.

The main stages of surgical intervention included: after removing the chitinous membrane and treating the residual cavities with anthelmintic drugs, the operation was completed by leaving a drainage tube into the cavity (in a semi-closed way).

By 15-16 days, all drains after a control ultrasound of the residual cavity study were removed on an outpatient basis. At the same time, the size and contents of the cavity of the liver were also taken into account here. Drainage removed at a size of less than 30 mm without liquid content.

Of the 3 patients with purulent foci of the liver with complex anatomical locations of the II control group in 2 patients, the purulent focus was localized in the VII segment of the liver, in 1 patient the localization of the purulent focus to the VIII segment of the liver was detected. From the anamnesis, 2 patients underwent echinococcectomy of the liver during the last three years. According to the extract of the protocol, the surgery, the localization of the purulent focus corresponded in the projection of the transferred echinococcectomy. Ultrasound examination and MSCT of the liver revealed cavity formations in the liver with a size of up to 8 cm in intrahepatic locations. The walls of the cavity had a dense thick capsule resembling a fibrous capsule of the liver. The contents of the cavity had a cloudy thick consistency. Of the 3 patients with purulent foci with complex anatomical locations of the liver, the 1st patient revealed an acute abscess of the liver which, during ultrasound and MSCT studies, cavity formations were revealed in the region VII - VIII segments of the subdiaphragmatic arrangement of the liver. The cavity formation contained a turbid, thick fluid, the walls of the cavity had a thin pyogenic capsule. Around the lesion of the tissue lesions, the liver had a dense

infiltrative area from 3 to 5 cm, the intensity of which from the purulent focus to the periphery gradually

decreased.



Rice. 1. Subhepatic abscess

In clinical and laboratory studies of the blood revealed a relatively high level of intoxication rates in patients with suppuration of residual liver cavities and acute liver abscess than in patients with echinococcosis of the liver.

On the day of admission, all indicators of intoxication in patients with purulent foci of the liver were significantly deviated from the norm. In the process of preoperative preparation, the included infusion-detoxification, antibacterial and general strengthening therapy by the 3rd day of treatment, these indicators relatively decreased.

It should be noted that all these patients also underwent an operation on a wide upper-mid-mid-lower access from the sword-shaped process of the sternum to the lower navel of 10 cm.

Almost all 3 patients with purulent cavity foci VII-VIII segments of the liver also performed the operation with great technical difficulties. The reason for which, as well as when performing the operation, patients with echinococcosis are baked with complex arrangements of VII-VIII segments. The absence of a fibrous capsule and the presence of perphalcal inflammation of the liver tissue with dense infiltration in patients with acute abscess hepens was still difficult Perform the optimal operation. During the operation, it was almost impossible for these patients to fix the walls of the cavity formation to the holder. Since there were infiltrated, easily bleeding and resembling as if boiled tissues are baked around the cavity formation. All three operations with a purulent focus are baked with complex anatomical locations were performed with great technical difficulties. The purpose of the operation was drainage, emptying the cavity from purulent content and sanitation of the cavity of the liver. After drainage of the purulent focus using

silicone drainage, the drainage tube is fixed by catgut sutures on the liver capsule and through contours are brought out and fixed to the skin by silk sutures.

In the 1st patient with an acute abscess, hepatic in the early postoperative period from the drainage tube was released bloody content in the amount of up to 10 ml per day. After intravenous administration of 100 ml of aminocaproic acid twice a day and etamzilate 1.0 twice intramuscular removal of blood from the drainage stopped.

All patients with purulent foci of the liver during the operation during the extraction of pus from the cavity were taken an analysis for qualitative and quantitative analysis of bacteriological research. After determining the sensitivity of microflora to antibiotics, antibiotic therapy was carried out taking into account the sensitivity of microflora. Antibiotic therapy was carried out for general and topical use. For topical use, the abscess cavity is administered through the drainage tubes of the antibiotic and with an exposure of 30 min. Empirical antibiotic therapy was carried out with the use of the drug Cefaperazone since, according to our own data, the microflora of our region of the majority of microflora shows sensitivity to this drug [14].

Of the three patients with purulent foci, *st* is hepat in two of the purulent focus. *Aureus*. one had *Proteus*, all of whom were sensitive to Cephaperazone.

In the postoperative period, daily sanitation of the liver cavity was carried out through the drainage tube, followed by the administration of antibiotics, taking into account the sensitivity of microflora.

In clinical and laboratory studies, the blood of the examined patients revealed a slight deviation in the level of intoxication indicators with significant deviations in the indicator of blood eosinophil Tabl. №

Table 2 Resource requirements by subprogramme

Dynamics of indicators of intoxication of patients of the control group with echinococcosis are baked with complex anatomical locations in the region of the posterior koscat VII-VIII segments (n = 11)

№	Indicator	Norm	Day		
			1-day	Day 3	Day 7
1.	Body temperature	36,6	36,9+0,4	36,8+0,3	36,6+0,2
2.	Blood leukocytes	4-9	9,8+0,6	9,5+0,4	8,2+0,2
3.	Eosinophil	1-5%	8,4% + 1,2	8,2% +1,1	4,6% + 0,6
4.	Lee	1,2	1,5 + 0,2	1,1 + 0,1	1,0 + 0,2
5	Msm	0,120	0,166 +0,017	0,138 + 0,014	0,108+0,011
6	Esr	1-10 mm/h	18+1,8	14,8 + 1,2	11,2 + 1,1

As can be seen in Table No. 2 on the day of admission, all indicators of intoxication except eosinophils were slightly deviated from the norm. In postoperative periods, all these indicators of blood intoxication by the 7th day normalized. The average duration of treatment for this category of patients was 11 + 1.4 days.

Analysis of postoperative complications revealed the following:

In surgical treatment of patients with cavity formations of the liver with complex subdiaphragmatic

locations, suppuration of the surgical wound was observed 27.2%, postoperative hernia 18.1%, iatrogenic damage to the liver 18.1%, bleeding from the cavity of the hepatic in the early postoperative period 9% of patients were observed.

At the same time, the average duration of the operation lasted 150 + 9.4 minutes.

A comparative analysis of postoperative complications, the average bed of the day and the duration of the operation of patients of I - II groups revealed the following interesting points.

Table No.

Frequency of postoperative complications, average bed of the day and duration of surgery of patients of I - II group

Group	Total number of patients	Suppuration of the surgical wound		Postoperative hernia		Iatrogenic damage to the liver		Bleeding from the cavity		Environments. prolongs . Operas	Average bed of the day
		Abs.	%	Abs.	%	Abs.	%	Abs.	%		
I rpyнна	26	1	3,8	-	-	-	-	-	-	70+8,5	7+1,2
II rpyнна	11	2	18,1	1	9,0	1	9,0	1	9,0	150+9,4	11+1,4

Of these complications, in the I group of patients who had cavity formations I, II, III, IV segments of the liver without complex anatomical locations (mainly subcapsular, superficial locations) of the wound suppuration, only 3.8% of patients were

observed. Postoperative complications such as postoperative hernia, iatrogenic damage to the liver, bleeding from the cavity in I groups of patients were not strayed. In contrast to them, in patients of group II with complex anatomical locations of cavity



formations of the liver, suppuration of the surgical wound was observed 18.1%, postoperative hernia 9.0%, iatrogenic damage to the liver 9.0%, in 9.0% of patients bleeding from the cavity of the liver in the early postoperative period. If the average duration of the operation of the I group was an average of 70 + 8.5 minutes, in patients II The duration of the operation lasted 150 + 9.4 minutes.

Thus, our analysis of the results of the study of patients of group II revealed that the surgical treatment of patients with complex locations of cavity formations of the liver has its own characteristics which is expressed in the main image in the technical difficulty of performing a surgical operation. That its turn negatively affects the duration and outcome of surgical treatment, which is expressed by the alassive duration of the operation up to 150 + 9.4 minutes, iatrogenic damage is baked up to 9.0%, the development of postoperative complications in the form of suppuration of postoperative wounds up to 9.0%, the appearance of postoperative ventral hernia up to 9.0%, early postoperative bleeding from the cavities of the liver is 9.0%.

FINDINGS:

1. Performing a surgical operation by the traditional method, patients with complex anatomical locations of cavity formations of the liver in the VII and VIII segments has its own technical difficulties that its turn affects the duration of the operation and contributes to the development of post-opedietary complications such as suppuration of the wound and postoperative hernia of the anterior abdominal wall, iatrogenic rupture of the hepens.
2. Surgical treatment of cavitory liver formations with complex anatomical arrangements of the liver in the region of the posterior cascat of the diaphragm VIII segments requires new more effective low-traumatic surgical tactics.

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