

RESULTS OF SURGICAL TREATMENT OF DISSEMINATED ECHINOCOCCOSIS OF THE ABDOMINAL ORGANS

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Abstract. *The authors, as a result of the research work carried out, the frequency of general complications from 4 (9.7%) to 1 (2.2%) - an improvement of 7.5%, complications associated directly with EE - from 14 (34, 1%) to 3 (6.5%) and increase the number with no complications from 27 (65.9%) to 43 (93.5%), i.e. 1.4 times; improve excellent and good results from 9 (22.0%) to 37 (79.4%), i.e. 5.2 times; reduce the frequency of satisfactory results from 12 (29.3%) to 6 (13.0%) and poor results - from 11 (26.8%) to 2 (4.3%), which in general improved the results of surgical treatment of DE abdominal organs, i.e. achieve the research goal.*

Keywords: *echinococcosis, abdominal organs, mortality, hepatoprotectors and laser therapy.*

Relevance of the problem. According to WHO estimates, more than a million people worldwide become ill with echinococcosis every year, leading to 19,300 deaths worldwide in 2015. Every year, the cost of treating patients with echinococcosis, as well as damage to livestock production, amounts to several billion dollars [9]. Today, echinococcosis is called the helminthological cancer of the 21st century, which determined the WHO strategy to include echinococcosis in the list of diseases requiring priority elimination [2;3;8].

The frequency of disseminated echinococcosis (DE) of the abdominal cavity ranges from 5.9 to 30%, with 90% of all multiple lesions occurring in the abdominal cavity and its organs [4]. Performing radical operations in such conditions is possible in only 25-30% of patients, and postoperative mortality reaches 7-18% [5;7].

Many studies have been devoted to various aspects of this problem, however, regarding DE of the abdominal organs, there is no specific definition, which causes confusion in terminology, and there is also no classification of its complicated forms. The high toxicity of chemical agents for treating OP, the insufficient effectiveness of existing physical methods and the lack of a unified algorithm of actions in determining surgical tactics dictate the need for further search. Because this search will improve the results of treatment of the most complex type of echinococcosis of the abdominal organs, in the form of its dissemination, which determines the extreme relevance of this problem.

Material and research methods. The Department of Surgery at the Department of Surgery of the Andrei State Medical Institute has experience in treating 714 patients with echinococcosis of various localizations, including 87 cases with DE of the abdominal organs, which are conditionally divided into 2 groups:

- comparison group – 41 (47.1%) patients, from 2011 to 2017. (retrospective study);
- main group - 46 (52.9%), who were subject to surgical treatment adhering to optimized surgical tactics from 2018 to 2022. (Prospective study).

Disseminated echinococcosis of the abdominal organs is the most severe form of complication of the disease, manifested by primary, secondary or tertiary contamination of the

host organ (mainly the liver) and abdominal organs with germinal elements of the parasite, and also manifested by more than three cysts.

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Among residents of the northwestern region of the Andijan region, the incidence was 49 (56.3%), which turned out to be significantly higher than among residents of the southeastern regions - 29 (33.3%) - ($p < 0.01$). The analysis of climatic conditions showed that the average climatic indicators in the northwestern region were 38.1° , while in the southeastern region - 36.8° , i.e. a temperature difference of 1.3° also had a statistically significant effect on the prevalence of this disease - ($p < 0.001$). The incidence among rural residents was noted in 77 (88.5%), among urban residents - 10 (11.5%). The data obtained confirm the close connection between human living conditions and the characteristics of the parasite's life cycle, where for a number of reasons the risk of contact is significantly high. In general, with DE of the abdominal organs, the local form was noted in 29 (33.3%) cases, widespread - in 34 (39.1%) cases and generalized - in 24 (27.6%) - ($p < 0.01$).

The presence of 2 cysts in the comparison group was established only in 7 (17.1%) patients and in the main group - in 9 (19.6%). Most often in the compared groups, 3 – 4 – 5 or more EC were diagnosed, which in total amounted to 34 (82.9%) and 37 (80.4%) patients, respectively ($p < 0.01$).

In the comparison group, an uncomplicated course of the disease was diagnosed in 31 (75.6%) patients, and in the main group - in 22 (47.8%). At the same time, in the comparison group, a complicated course was established in 10 (24.4%) patients and in the main group - in 24 (52.2%), which indicates an established tendency towards an increase in complicated forms of this disease - ($p < 0.01$).

For diagnosis, general clinical methods (complaints, anamnesis, objective examination) were used in combination with fluoroscopy, ultrasound (US), computed tomography (CT), and magnetic resonance imaging (MRI).

Changes in biochemical parameters, in particular indicators of urea nitrogen, AST and ALT, fibrinogen and bilirubin, were found to be statistically significantly higher in the studied patients compared to healthy individuals, which indicated functional liver disorders and a correlation with the size of the parasitic cyst - ($p < 0.01$). At the same time, a study of biochemical blood parameters in the postoperative period showed a restoration of its parameters close to the healthy group, which was one of the criteria for the effectiveness of the treatment - ($p < 0.01$). Serological diagnosis of patients with DE was based on the detection of antibodies (IgG) in the blood serum of infected people, which are specific markers of parasitic infection. In patients with DE, in the preoperative period IgG immunoglobulins were elevated in almost all observations.

In order to determine the statistical significance of the obtained data, χ^2 and Pearson's ρ test were calculated, as well as according to T-Student.

The operations were performed with precision, taking into account the likelihood of iatrogenic injury to the cyst membrane and contamination of the abdominal cavity with the parasite's scolex. For the purpose of prevention, the subcutaneous tissue and abdominal cavity were delimited from the EC with gauze swabs moistened with a hypertonic solution (20-30%) of

sodium chloride. We also carried out a multicomponent treatment of the walls of the OP: the inner surface of the fibrous capsule with a 10% sodium chloride solution with an exposure time of 2 minutes, furatsilin heated to a temperature of 700 C for 2 minutes, 700 alcohol for 2 minutes, and 5% iodine tincture with exposure for 2 minutes and at the end, electrocoagulation of the inner surface and edges of the fibrous capsule for 2 minutes, a total of 10 minutes [1].

Another improvement in the tactics of DE of the abdominal organs was the development of an algorithm for surgical tactics for DE of the abdominal organs [10], according to which, in all cases, chemotherapy, immunotherapy, hepatoprotectors and laser therapy were included in the preoperative preparation. We use this algorithm to optimize the surgical tactics of treating DE of the abdominal organs.

Results and its discussion. To assess the immediate results, patients with postoperative complications were divided into two subgroups, which made it possible to conduct an objective analysis of the surgical results.

1. Postoperative complications directly related to surgery for echinococcosis of the liver and abdominal organs (fluid accumulation in the residual cavity, formation of external biliary fistulas, blood; liver abscesses, suppuration of the residual cavity, complications of the surgical wound).

2. Postoperative complications of a general nature that can occur during surgical interventions on other organs and systems of the body: cardiovascular system, bronchopulmonary (bronchitis, pneumonia). Complications that arise during surgery on the liver and abdominal organs may be associated with the surgical technique itself. However, there are also complications that are typical for this type of operations performed in hepatic and abdominal surgery.

General complications in the immediate postoperative period, depending on the elimination of AP in the comparison group showed that bronchopulmonary complications were noted in 1 (2.4%) patient after combined EE, acute cardiovascular failure also in 1 (2.4%) patient after open EE and acute hepatic-renal failure in 2 (4.9%) - after semi-closed EE in 1 (2.4%) and combined - in 1 (2.4%).

General complications in the immediate postoperative period depending on the elimination of AP in the main group showed that acute cardiovascular failure was detected in 1 (2.2%) patient after combined EE.

A comparative assessment showed that in the comparison group, complications of a general nature in the immediate postoperative period, depending on the elimination of AP, were observed in 4 (9.7%) patients, while in the main group - only in 1 (2.2%) patient (improvement by 7.5%) - ($p < 0.005$).

The number of patients with complications prevailed in the comparison group - 14 (34.1%), while in the main group - only 3 (6.5%) patients - ($p < 0.001$). In the comparison group, bleeding was noted in 3 (7.3%) patients, while in the main group - only in 1 (2.2%); biliary fistula in the comparison group was observed in 2 (4.9%) patients, in the main group it was not observed; purulent fistula OP with communication into the abdominal cavity in the comparison group was found in 1 (2.4%), while in the main group it was not noted. A long-functioning biliary fistula during drainage of OP in the comparison group was observed in 3 (7.3%) patients, in the main group - in 1 (2.2%) and suppuration of OP - in 2 (4.9%) and 1 (2.2%). %, respectively. Early relaparotomy for complications, regardless of the source of peritonitis, was performed in 2 (4.9%) patients in the comparison group, while in the main group there was no need for relaparotomy.

Postoperative mortality occurred only in the comparison group in 1 (2.4%) patient, due to the development of acute cardiovascular and hepatic renal failure.

Thus, the best result can be seen in the group with the tactics we propose and a set of measures developed for the treatment and elimination of OP, depending on the factors.

Optimization of surgical tactics in the treatment of DE of the abdominal organs could not but affect the immediate results of management of this category of patients. In general, in the main group, compared with the comparison group, the frequency of immediate postoperative complications decreased by almost 5.2 times.

As a result, the number of patients with no postoperative complications in the comparison group was 27 (65.9%), while in the main group there were 43 (93.5%) - an improvement of 27.6%, i.e. 1.4 times, and general complications were minimized - from 7.8 to 2.7%, respectively - ($p < 0.001$).

Including, in the main group, it was also possible to avoid cases of relaparotomy - from 4.9% and mortality - from 2.4% to 0%, respectively - ($p < 0.05$).

Long-term results of surgical treatment of recurrent EP were observed in the comparison group in 32 of 41 operated patients and in 45 of 46 patients of the main group for up to 3 years and after surgery. 30 people were examined during the first year, but then the number of visits decreased. Excellent results were obtained in 5 (12.2%) patients in the comparison group and in 27 (58.7%) in the main group, characterized by a complete absence of symptoms of disease relapse after surgery. The patient was practically healthy, did not follow a diet and did the same job.

We combined patients who had no complaints and considered themselves absolutely healthy into a group with good results. Good results were observed in 4 (9.8%) patients in the comparison group and in 10 (21.7%) patients in the main group. Satisfactory results were obtained in 12 (29.3%) patients in the comparison group and in 6 (13.0%) patients in the main group. The identified changes were corrected by conservative measures.

A poor result was observed in 11 (26.8%) patients in the comparison group and in 1 (2.2%) in the main group, when a relapse of hydatid disease was diagnosed during the examination. These patients required surgical treatment in specialized departments and were recognized as disabled groups II and III. If long-term results were unsatisfactory, the issue of repeat surgery was decided. Optimized surgical tactics made it possible to increase the frequency of excellent and good results from 9 (22.0%) to 37 (79.4%), and also to reduce the proportion of satisfactory results from 12 (29.3%) to 6 (13.0%) and bad - from 11 (26.8%) to 2 (4.3%).

Conclusion. Thus, as a result of the research work carried out, the frequency of general complications from 4 (9.7%) to 1 (2.2%) is an improvement by 7.5%, complications associated directly with EE - from 14 (34.1%) to 3 (6.5%) and increase the number with no complications from 27 (65.9%) to 43 (93.5%), i.e. 1.4 times; improve excellent and good results from 9 (22.0%) to 37 (79.4%), i.e. 5.2 times; reduce the frequency of satisfactory results from 12 (29.3%) to 6 (13.0%) and poor results - from 11 (26.8%) to 2 (4.3%), which in general improved the results of surgical treatment of DE abdominal organs, i.e. achieve the research goal.

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