



METHOD OF PREVENTING PURULENT-SEPTIC COMPLICATIONS OF LIVER ECHINOCOCCOSIS.

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Abstract:

The literature and our own data on modern methods of surgical treatment and clinical and immunologically based methods for choosing the prevention of purulent-septic complications in patients with liver echinococcosis , corresponding to the principles of evidence-based medicine, are summarized. Along with this, new algorithms for diagnostic and treatment tactics for uncomplicated and complicated forms of hydatid echinococcosis of the liver are described in detail.

Keywords: Echinococcosis, liver, immunity

RELEVANCE . Advances in the use of antibacterial drugs have not been able to influence the eradication of purulent-septic complications. And in recent years, such complications have not tended to decrease. At the same time, in the general structure of mortality in surgical hospitals, purulent-septic complications remain leading. The development of purulent-septic complications of echinococcosis and echinococectomy lead to a significant increase in the duration of treatment, an increase in the incidence of disability and mortality, which on average varies between 7.2-10.8%. In this regard, prediction and prevention of complications in surgery for pulmonary and liver echinococcosis still remains far from resolved and relevant.

It is known that echinococcus, developing in the human body, which acts as an intermediate host, significantly affects the restructuring of the immune system . The mechanism of these changes has not been sufficiently studied to date . Many data on the body's relative immune response to Echinococcus invasion are multidirectional, sometimes even contradictory to each other . There is an opinion that, when echinococcus enters the body , it stimulates the host's immune system. This is manifested by the development of a number of cellular and humoral reactions. Along with this, there is information regarding immunosuppression. Proponents of this theory argue that the suppression of host defense mechanisms against both their own antigens (homologous immunosuppression) and antigens of other infecting agents (heterologous immunosuppression).

There is no data in the literature on the influence of initial changes in the immunological status of patients with echinococcosis on the frequency and severity of the development of purulent-septic complications and

the dynamics of changes in immunological parameters in the postoperative period.

Postoperative purulent-septic complications in surgery for liver echinococcosis are extremely severe; existing methods of prevention are ineffective (29,30,31,32) . Evaluation of existing and development of new methods for predicting the development of possible purulent-septic complications, which is important for the effective and rational rehabilitation of patients with echinococcosis, could significantly improve the results of treatment of patients with echinococcosis of internal human organs. Everything presented above determined the main direction of this work.

PURPOSE OF THE STUDY. Improvement methods for preventing purulent-septic complications of echinococcosis

MATERIALS AND METHODS . The main group included 296 patients with liver echinococcosis who were treated and examined in Bukhara regional multidisciplinary medical center from 2016 to 2022.

The distribution of patients by age revealed a predominance of patients in the age range from 41 to 60 years (69.5%), that is, during the period of active work. At the same time, the range of age dispersion of patients in the main group, compared with the control group, decreased both towards young and old age.

A separate comparative analysis showed that among male patients, patients in the age category from 41 to 50 years prevailed (37.8%), then in descending order, patients in the age range from 51 to 60 years (21.0%) and from 61 to 70 years (17.6%). Moreover, among female patients, the prevalence in the age range was also from 51 years to 60 years (46.3%).



In comparison with patients in the control group, it can be noted that the prevalence in the main group of the number of patients was only in the age range from 41 to 50 years (1.1 times), from 61 to 70 years (2.1 times) and over the age of 71 years (1.4 times).

Lower values in the number of patients in the main group, compared to the control group, were noted by us in the age categories under 20 years (3.5 times less), in the range from 21 to 30 years (2.2 times less) and in the range from 31 to 40 years (1.6 times).

Thus, a comparative analysis of the distribution of patients with hydatid echinococcosis of the liver in the main group of patients showed an excess of an older cohort with the same values by gender.

A comparative assessment of the distribution of patients by the nature of the disease and the number of cysts showed that in the main group of patients patients with residual cysts prevailed solitary echinococcal cyst (1.9 times), with multiple residual echinococcal cyst (1.6 times) and solitary recurrent cyst (1.2 times).

To a lesser extent in the main group of patients, in contrast to the control group, there were patients with primary multiple hydatid cysts of the liver (1.3 times).

The number of patients with both primary solitary and primary multiple hydatid echinococcosis of the liver in the main group of patients was almost identical to that in the control group.

Of the total number of the main group of patients, primary hydatid hydatid cysts were registered in 68.2% of cases.

In 63.9% of cases, solitary hydatid hydatid cysts of the liver. In 107 patients (36.1%), hydatid cysts were multiple in nature. We registered recurrent and residual hydatid cysts in 16.6% and 15.2% of cases.

A comparative analysis showed the predominance of patients with recurrent and residual hydatid cysts of the liver in the main group of patients (2 and 19 more patients in the main group than in the control group).

In contrast, in the control group of patients, patients with multiple hydatid echinococcosis of the liver prevailed (38.9% in the control group of patients).

In a comparative analysis of the distribution of patients with hydatid echinococcosis of the liver, it can be noted that the main group of patients was characterized by the presence of a more complex variant of the nature of the disease. In total, 419 echinococcal liver cysts were identified in 296 patients of the main group . On average, there were 1.4 cysts per patient. The distribution of patients by cyst diameter showed that in the main group of patients, as well as in the control group, formations with diameters from 10 to 14 cm (34.1%) prevailed. Cysts measuring from 15 to 19 cm

(29.8%) and from 6 to 9 cm (26.7%) were almost equally numerous. 28 (6.7%) hydatid cysts were less than 5 cm in diameter (most of them were multiple) and 11 were giant (more than 20 cm in diameter). Moreover, if the number of giant cysts in the main group of patients was identical to that of the control group, then there were 1.5 times fewer cases with small (less than 5 cm in diameter) liver cysts.

Comparative characteristics of the localization of echinococcal cysts in liver segments revealed an identical pattern of trends depending on the mono- or bisegmental location of the formation.

The number of cysts localized in the V - VI segments in the main group of patients was the same as in the control group; there was no significant difference between the groups.

In the main group of patients , cysts located in the I and II - IV segments of the liver prevailed over the control ones (1.2 and 1.6 times more, respectively).

At the same time, in the main group of patients, there were more cysts located in the VI - VII and VII - VIII segments (1.1 and 1.2 times, respectively) in the control group.

Thus, it can be noted that the favorite localization of the hydatid cyst was recorded by us in patients of the control group in the liver segments (36.3%).

Locations in II - IV and in liver segments were almost in the same proportion (23.1% and 29.3%, respectively).

According to the clinical forms in patients of the main group, in 51.0% of cases the disease was complicated (complicated liver echinococcosis). Accordingly, in 145 patients, that is, in 49.0% of cases, a complicated form of the pathological process was noted.

In more than half of the cases of complications, suppuration of the hydatid cyst was noted (60.3%). Such variants of suppuration were isolated in various stages of the purulent-inflammatory process.

As mentioned above, in a total of 296 patients of the main group, 37.7% of cysts with a live parasite were detected, 26.3% with a dead parasite, and in 36.0% of cases there were complicated forms of liver echinococcosis, due to the addition of a purulent-inflammatory process .

Among cases with a dead parasite, we noted variants of a dead parasite in the stage of early post-mortem changes in 38.2% of cases and a dead parasite in the stage of late post-mortem changes in 61.8% of cases.

When assessing clinical and laboratory parameters, along with traditional methods for assessing clinical, biochemical and other blood parameters, performed in accordance with approved standards, since 2016 we



have also used a prognostic method for assessing the degree of immunological suppression .

RESULTS AND ITS DISCUSSION . In patients with primary hydatid echinococcosis of the liver, a compensated degree of immunological suppression was diagnosed in the preoperative period in 51.0% of cases (103 patients) . Of these, priority (5.1% more) were patients with single hydatid cysts of the liver. To a lesser extent, 62 patients (30.7%) were diagnosed with a subcompensated degree of immunological suppression . Its distribution was also in favor of patients with a single hydatid cyst of the liver (4.7% more).

In 35 (17.3%) patients with primary hydatid echinococcosis of the liver, a decompensated degree of immunological suppression was diagnosed in the preoperative period . Moreover, it was detected to a greater extent among patients with primary multiple hydatid echinococcosis of the liver (more by 11.2% of cases).

The absence of any disturbances in immunological suppression among 2 patients with primary solitary hydatid echinococcosis of the liver remains unclear. This was probably due to the small size of the cyst, not reaching 5 cm.

Thus, the degree of immunological suppression among patients of the main group with primary hydatid echinococcosis of the liver showed a predominance of a compensated degree of immunological suppression .

Along with this, other degrees were noted in this cohort of patients, which was possibly due to the presence of purulent-septic complications, which were characterized by a severe course against the background of immunological suppression of the body. However, in most patients with primary both single and multiple hydatidosis In cases of liver echinococcosis, disturbances in the immune system of a transient nature were prevalent.

In the main group, 45 cases with residual hydatid cyst of the liver were diagnosed.

Patients with multiple echinococcosis of the liver predominated (6.6% more). An assessment of the degree of immunological suppression among patients with residual hydatid cyst of the liver showed that in more than half of the cases (55.6%) the patients were diagnosed with decompensation in the studied parameters. Almost 2 times of these patients were among cases with multiple liver cysts (1.55 times more). In 42.2% of cases, patients were diagnosed with a subcompensated degree of immunological suppression , which prevailed among patients with single hydatid cysts of the liver. In another 1 (2.2%) patient with residual hydatid cyst of the liver, the degree of

immunological suppression was at the level of compensation. This case was diagnosed among patients with a single hydatid cyst of the liver.

Thus, in patients with residual echinococcosis of the liver, the decompensated level of immunological suppression becomes a priority , which exceeds the subcompensated level by almost 2 times among patients with multiple echinococcosis of the liver. Against this background, the subcompensated version of immunological suppression is superior in patients with single hydatid cysts of the liver.

In 49 patients of the main group, a relapse of hydatid echinococcosis of the liver was diagnosed. The distribution of patients depending on the degree of immunological suppression revealed, in contrast to previous research cases, clear distinctive aspects. No matter how uncharacteristic this may be, there were more patients with multiple hydatid cysts of the liver than with single ones.

The majority of patients (89.9%) had decompensated immunological suppression , which was the leading one both among patients with single and among patients with multiple echinococcosis of the liver. Moreover, in the latter case there were more such patients in 7.2% of cases.

a subcompensated form of immunological suppression diagnosed . Moreover, it was almost identical both among patients with single and multiple hydatid cysts of the liver.

any patients with a recurrent form of hydatid echinococcosis of the liver with a compensated degree of immunological suppression .

Thus, in patients with recurrent hydatid echinococcosis of the liver, the priority is the decompensated degree of immunological suppression , which, as statistical analysis showed, was at the priority level. Against this background, it should be noted that there is no compensated form of immunological suppression , which occurred in previous subgroups of patients (with primary and residual forms). Apparently, this is due to the peculiarities of the manifestation of purulent-septic complications of liver echinococcosis , and this analysis attracted our attention.

In 51.0% of patients, hydatid echinococcosis of the liver was complicated. Among the complicated forms of liver echinococcosis, cases with banal suppuration of the cyst (60.3%) and suppuration of the cyst with a breakthrough into the intrahepatic bile ducts with the development of cholangitis and jaundice (31.1%) prevailed.

A complication in the form of suppuration of an echinococcal cyst with a breakthrough into the pleural



cavity in 7 (4.6%) patients led to the development of pleural empyema.

A similar nature of the lesion, but without pleural complications, led to the breakthrough of the cyst into the bronchial tree with the development of purulent endobronchitis, which we noted in 1 (0.7%) patient.

In 6 (3.3%) patients, the complication of the hydatid cyst was in the form of its breakthrough into the free abdominal cavity with the development of peritonitis.

Along with the analysis of complications, similar to the control group of patients, we also carried out an analysis of the distribution of the degree of immunological suppression among patients with complicated and uncomplicated forms of hydatid echinococcosis of the liver.

A preliminary summary analysis showed that patients in the main group had equal proportions of patients with compensated and decompensated degrees of immunological suppression (35.1%, respectively; 104 patients each). Only in 29.1% (86 patients) of cases, patients in the main group were diagnosed with a subcompensated degree of immunological suppression.

Among patients with a complicated form of liver echinococcosis, the majority had a decompensated degree of immunological suppression (58.9%), while among patients with an uncomplicated form of the disease there were only 10.3% (15 patients).

The same imbalance was noted among patients with subcompensated immunological suppression. A subcompensated form of the degree of immunological suppression was noted among 41.1% (62 patients) of patients with a complicated form of the disease, while in the subgroup of patients where there was no complication of liver echinococcosis, only 16.6% (24 patients) were present.

Among patients with a complicated form of liver echinococcosis, we did not identify any other changes in the degree of immunological suppression, while among patients with an uncomplicated form of the disease, 104 (71.7%) patients with a compensated and 2 patients (1.4%) with a normal level were identified. the degree of immunological suppression of the body.

The peculiarities of therapeutic measures in patients with a complicated form of liver echinococcosis is the approach to the choice of surgical intervention, which differs both in the technical issues of solving the problem and in the timing of surgical interventions. As for uncomplicated forms of hydatid echinococcosis of the liver, surgical interventions in such patients should be completed without the possibility of developing

purulent-septic complications, relapses and residual cysts at various periods after surgery.

Therefore, before starting to develop a diagnostic and treatment algorithm, we resorted to another comparative analysis of the distribution of patients with an uncomplicated form of liver echinococcosis (145 patients) and the degree of immunological suppression.

The approach to dividing patients with an uncomplicated form of hydatid echinococcosis of the liver was based on WHO criteria from 2010. All these criteria were described by us in the second chapter of the dissertation, and they were based on ultrasound data.

In general, among those with an uncomplicated form The majority of patients with hydatid echinococcosis of the liver were patients with hydatid echinococcal cysts at stage CL and CE -4. Moreover, if in the first case (31 patients; 21.4%), they were characterized by the presence of ultrasound signs of a single-chamber cystic formation, usually spherical or oval in shape, with unclear homogeneous anechoic contents, limited by a hyperechoic rim without visible walls, then in the second case (35 patients; 24.1%) - heterogeneous-hypoechoic or dishomogeneous -degenerative content and the absence of daughter cysts.

In patients with CL, this was hydatid echinococcosis of the liver, designated simply as a "cystic formation." In these patients, in 93.5% of cases (29 patients), the degree of immunological suppression was compensated. The remaining 6.5% of patients (2 cases) were diagnosed with a subcompensated degree of immunological suppression.

At the same time, in patients with sonographic signs of hydatid echinococcosis of the liver CE -4, only a compensated form of immunological suppression was diagnosed.

In 29 patients with hydatid echinococcosis of the liver, ultrasound examination revealed the presence of a cyst with daughter cysts. In this case, the contents were anechoic with simultaneous detachment of the inner lining of the cyst. The cyst shell showed the sign of a "water lily." Moreover, in 18 patients of this subgroup, the single-chamber cyst contained daughter cysts, which had an anechoic image in the form of a complex mass due to the presence of periodic echogenic areas. We identified all these patients into a subgroup with ultrasound signs of hydatid echinococcosis of the liver CE -3. The lion's share of patients (96.6%) had a compensated degree of immunological suppressiveness and 1 patient (3.4%) – subcompensated.



Such a high level of patients with compensated immunological suppression was due to the transitional or intermediate period of death of the parasite, both maternal and daughter cysts. However, these cysts still contained viable protoscolexes .

The same proportion included patients with ultrasound signs of CE -1 and CE -2 (24 patients in each subgroup).

In both the first and second cases, hydatid echinococcosis of the liver was characterized by the presence of an active, living parasite. However, in the first case, patients had a single-chamber cystic formation of spherical or oval shape with homogeneous anechoic content and clearly visible cyst walls. In contrast to these signs, patients with CE -2 had multilocular cysts with many septa, in which daughter cysts completely filled the maternal cyst.

Half of the patients (12 cases) with CE -1 signs of the ultrasound picture were patients with a subcompensated degree of immunological suppression . In 11 (45.8%) patients with CE -1 ultrasound signs, a compensated degree of immunological suppression was diagnosed . Another 1 (4.2%) patient was diagnosed with a decompensated degree of immunological suppression .

In contrast to this subgroup of patients, in patients with CE -2 ultrasound picture of hydatid echinococcosis of the liver, a decompensated degree of immunological suppression was diagnosed in 58.3% of cases , subcompensated in 9 patients (37.5%) and subcompensated in another 1 (4.2%) patient - compensated.

Thus, a comparative analysis of the distribution of patients with an uncomplicated form of hydatid echinococcosis of the liver according to the morphofunctional characteristics of the cyst and the degree of immunological suppression made it possible to identify a natural relationship between the phase and form of development of the pathological process and the severity of disturbances in the immunological response of the body.

The absence of any sign of immunological suppression was diagnosed by us only among patients with CE -1, which was due to the presence of immunological competence, which made it possible to achieve not only the death of the parasite and stop the growth of the cyst, but also to create conditions for the abortive course of the entire pathological process, leading to calcification hydatid echinococcosis of the liver.

A compensated degree of immunological suppression was diagnosed, as already indicated in the previous paragraph of this chapter of the dissertation, in 104 patients with an uncomplicated form of hydatid

echinococcosis of the liver. Moreover, in 33.7% of cases (35 patients) these were patients with CE -4, in 27.9% of cases (29 patients) - patients with CL , in 26.9% of cases (28 patients) - patients with CE - 3, in 10.6% of cases (11 patients) – patients with CE -1 and 1% (1 patient) – with CE -2.

Thus, a compensated degree of immunological suppression was characteristic of patients with developing and dead hydatid echinococcosis of the liver. subcompensated degree of immunological suppression in 50% of cases (12 patients) was characteristic of hydatid echinococcosis of the liver with ultrasound signs of CE -1, in 37.5% of cases (9 patients) - for patients with CE -2, in 8.3% of cases (2 patients) - for patients with CL , and in 4.2% of cases (1 patient) - for patients with CE -3.

Thus, a subcompensated degree of immunological suppression was characteristic of patients with a live active parasite of hydatid hydatid cyst of the liver.

a decompensated degree of immunological suppression mainly (93.3%) among patients with ultrasound signs of hydatid echinococcosis of the liver CE -2. Only 1 patient (6.7%) with ultrasound signs of hydatid echinococcosis of the liver CE -1 was found to have a decompensated degree of immunological suppression . Thus, a decompensated degree of immunological suppression was characteristic of patients with a live active multilocular parasite of hydatid hydatid cyst of the liver.

In general, it should be noted that, as our comparative analysis has shown, the formation and development of hydatid echinococcosis of the liver is based on the degree of manifestation of immunological suppression .

On the other hand, as mentioned above, the development of immunological competence ends with the death of the parasite with the cessation of the development of echinococcosis and calcification of the cyst, which can be perceived as an adequate immunological response of the body. In this regard, preventive measures in patients with hydatid echinococcosis of the liver should be aimed, first of all, at influencing immunological suppression , transferring this system disorder to the level of immunological competence. It seems to us that the solution to this issue should be reflected at all stages of providing diagnostic and treatment care to the patient.

An analysis of the distribution of the degree of immunological suppression in patients with a complicated form of hydatid echinococcosis of the liver was carried out by dividing patients depending on the presence of septic manifestations of the disease or identifying patients with a risk of developing sepsis.



As already described above, in 151 patients of the main group, hydatid echinococcosis of the liver was diagnosed as a complication of the disease. We would like to remind you that among the complications, in 60.3% of cases (91 patients) suppuration of a hydatid echinococcal cyst of the liver was noted, in 31.1% of cases (47 patients) - suppuration of a hydatid echinococcal cyst of the liver with a breakthrough into the intrahepatic bile ducts, with the development of cholangitis and jaundice, in 4.6% of cases (7 patients) - suppuration of hydatid echinococcosis of the liver, with a breakthrough into the pleural cavity, followed by the development of pleural empyema. In 1 patient (0.7%) suppuration of an hydatid cyst of the liver was diagnosed, with a breakthrough into the pleural cavity and further into the bronchial tree, with the development of purulent endobronchitis. Another 5 patients (3.3%) were admitted to the clinic with a complication of hydatid echinococcosis of the liver in the form of perforation into the abdominal cavity.

Thus, all complications of hydatid echinococcosis of the liver in patients of the main group can be divided depending on the localization of the process and the involvement of other organs and systems of the body, as well as the emptying of the focus of the pathological process due to the destructive destruction of the cyst. Intrahepatic complications of hydatid echinococcosis of the liver were noted by us in 91.4% of cases (138 patients), which indicates the leadership of such variants of manifestation of severe forms of this disease. In contrast, cases with breakthrough of the hydatid cyst were observed in 39.7% of cases (in 60 patients). This indicates the priority of purulent-inflammatory complications of hydatid echinococcosis of the liver, which, as our experimental studies have shown, develop due to changes in the immunological response.

Based on this, it is important, in our opinion, to know how much there is a comparative relationship between the development of purulent-septic complications of hydatid echinococcosis of the liver and its clinical manifestations.

based the clinical manifestations of purulent-septic complications of hydatid echinococcosis of the liver on the signs of systemic inflammatory reaction syndrome, the manifestation of which is taken into account when assessing the severity of the inflammatory process.

In a comparative assessment of the distribution of the number of signs of systemic inflammatory response syndrome among patients with various types of purulent-inflammatory complications of hydatid echinococcosis of the liver, it was revealed that in 91

patients with cyst suppuration, the majority (61.5%) were noted for only one sign of the syndrome.

In second place (24.2%) were patients with two clinical and laboratory signs of systemic inflammatory response syndrome. At the same time, in 13 patients (14.3%) we did not note any signs of systemic inflammatory reaction syndrome among patients with hydatid echinococcosis of the liver, complicated by cyst suppuration. We did not identify patients with three and four signs of systemic inflammatory reaction syndrome with hydatid echinococcosis of the liver, complicated by suppuration.

In 47 patients (31.1%) with a complication of hydatid echinococcosis of the liver in the form of suppuration of a cyst with a breakthrough into the intrahepatic bile ducts, with the development of cholangitis and jaundice, mainly two (55.3%) and three (40.4) were noted. %) clinical and laboratory signs of systemic inflammatory response syndrome. Only 2 (4.3%) patients showed only one of the four signs of systemic inflammatory response syndrome.

of hydatidous echinococcosis of the liver, closer to the clinical picture of the septic manifestation, was noted by us in 7 (4.6%) patients with suppuration of the cyst, with its breakthrough into the pleural cavity with the subsequent development of pleural empyema. Moreover, in 57.1% of cases, patients had three, and in 42.9% of cases, four clinical and laboratory signs of systemic inflammatory response syndrome.

In 1 (0.7%) patient with suppuration of hydatid echinococcosis of the liver, complicated by a breakthrough into the pleural cavity and further into the bronchial tree with the development of purulent endobronchitis, only 2 clinical and laboratory signs of systemic inflammatory response syndrome were diagnosed. At the same time, in 5 (3.3%) patients with perforation of an hydatid cyst of the liver into the abdominal cavity, four clinical and laboratory signs of systemic inflammatory response syndrome were noted, which served as the main manifestation of the shock state.

A comparison of the frequency of clinical and laboratory signs of systemic inflammatory response syndrome revealed that the absence of symptoms was only among patients with banal suppuration of hydatid echinococcosis of the liver.

Among patients with one clinical and laboratory symptom of systemic inflammatory response syndrome, in 96.6% of cases (56 patients) there were patients with banal suppuration of hydatid echinococcosis of the liver and only in 3.4% of cases in patients with suppuration of hydatid cyst of the liver, complicated with a



breakthrough it into the intrahepatic bile ducts with the development of cholangitis and jaundice.

A more dispersive distribution was noted among patients with two clinical and laboratory signs. Basically (in 53.1% of cases) they were noted among patients with suppuration of an hydatid liver cyst, complicated by its breakthrough into the intrahepatic bile ducts with the development of cholangitis and jaundice, and in 44.9% of patients with banal suppuration of hydatid echinococcosis of the liver. In 2% of cases, such a quantity of systemic inflammatory response syndrome was noted by us among patients with suppuration of an hydatid cyst of the liver, with a breakthrough into the pleural cavity, into the bronchial tree with the development of purulent endobronchitis .

Three clinical and laboratory signs of systemic inflammatory response syndrome were noted in the main (in 82.6% of cases) in patients with suppuration of an hydatid cyst of the liver, complicated by its breakthrough into the intrahepatic bile ducts with the development of cholangitis and jaundice, in 17.4% cases (4 patients) with suppuration of an hydatid cyst with a breakthrough into the pleural cavity, followed by the development of pleural empyema.

We noted four clinical and laboratory signs of systemic inflammatory response syndrome among 62.5% of patients with perforation of an hydatid cyst of the liver into the abdominal cavity, with the development of peritonitis, and in 37.5% of cases among patients with suppuration of an hydatid cyst of the liver, with its breakthrough into pleural cavity, with the development of pleural empyema.

Thus, as our studies on a comparative analysis of clinical and laboratory manifestations of purulent-septic complications of hydatid echinococcosis of the liver have shown, we can note the paucity of their manifestations, which often did not meet the criteria for diagnosing sepsis. This, in turn, indicates the low diagnostic significance of clinical and laboratory signs of systemic inflammatory response syndrome in an objective assessment of the severity of the patient's condition. On the other hand, the cause of such changes may be related to the immunological disorders we have identified, in particular suppressivity , which determine the body's response to the addition of a bacterial infection. This hypothesis can be confirmed by conducting a comparative analysis of clinical and laboratory manifestations of the systemic inflammatory response syndrome and the degree of immunological suppression in patients with hydatid echinococcosis of the liver, complicated by a purulent-septic process.

We would like to remind you that among patients with a complicated form of hydatid echinococcosis of the liver, we did not identify normal and compensated values of immunological suppression . In most cases (58.94%), we identified decompensated and to a lesser extent (41.06%) subcompensated degrees of immunological suppression .

Among 62 patients with a subcompensated degree of immunological suppression, there were more patients with two (38.71%) and three (33.87%) clinical and laboratory signs of systemic inflammatory response syndrome.

In 13.11% of patients with a subcompensated degree of immunological suppression , 4 clinical and laboratory signs of systemic inflammatory response syndrome to a complicated form of hydatid echinococcosis of the liver were identified. The least represented were patients with a compensated degree of immunological suppression among patients with one (8.06%) and without symptoms of systemic inflammatory response syndrome (6.45%) of the complicated form of hydatid echinococcosis of the liver.

The decompensated degree of immunological suppression in more than half of the cases (59.55%) was represented by patients with one sign of systemic inflammatory response syndrome. The remaining percentages were distributed in descending order between patients with two (28.09%) and three (2.25%) clinical and radiological signs of the syndrome of systemic inflammatory response to purulent-inflammatory complications of hydatid echinococcosis of the liver. It should be noted that in 9 patients (10.11%) with a decompensated degree of immunological suppression, there were no clinical and radiological signs of the syndrome of systemic inflammatory reaction to purulent-inflammatory complications of hydatid echinococcosis of the liver.

When comparing the frequency of recording the degree of immunological suppression in patients with various clinical and laboratory signs of the manifestation of the systemic inflammatory response syndrome to the purulent-inflammatory complication of hydatid echinococcosis of the liver, we also identified a certain pattern.

Among patients with four clinical and radiological signs of systemic inflammatory response syndrome, a subcompensated degree of immunological suppression was diagnosed in all cases . And in patients with three clinical and radiological signs of systemic inflammatory response syndrome, subcompensated immunological suppression was noted in 91.3% of patients (21



patients), and in 2 patients (8.7%) it was decompensated.

The decompensated degree of immunological suppression increases among patients with two clinical and radiological signs of systemic inflammatory response syndrome, reaching up to 51.02% (25 patients). The remaining 48.98% of patients with two clinical and laboratory signs of systemic inflammatory response syndrome were diagnosed with a subcompensated degree of immunological suppression .

In patients with one or no clinical and laboratory signs of systemic inflammatory response syndrome, priority was given to patients with a decompensated degree of immunological suppression (91.38% and 69.23%, respectively). A compensated degree of immunological suppression in patients with one clinical and laboratory sign was diagnosed in 8.62% of patients (5 patients) with a complicated form of hydatid echinococcosis of the liver, and without symptoms of the systemic inflammatory response syndrome - in 30.77% (4 patients).

Summing up the results of the comparative analyzes of changes in the degree of immunological suppression and clinical and laboratory signs of various forms of hydatid echinococcosis of the liver, we can note that in this disease the presence of a certain form of purulent-septic complication and especially its manifestations, in the form of signs of systemic inflammatory reaction syndrome, cannot be taken as the basis for an objective assessment of the patient's condition.

We can draw this conclusion based on the data presented above, where patients with a decompensated degree of immunological suppression do not have a pronounced clinical picture of inflammation and generalization of the process, while in the third chapter of the dissertation we attempted to identify these changes using laboratory indicators of markers of generalization of infection .

This statement, in our opinion, is due to early immune suppression , which led to the development of hydatid echinococcosis of the liver, since its development, and especially its manifestation, as our experimental data showed, requires restraint in the response of the immune system, which proceeded through the Th₂ cell type. And even with the development of cytokinemia , the clinical picture of the purulent-inflammatory process does not reflect the whole essence of the ongoing immunological manifestations of the disease.

Only the transition to the Th₁ cellular type of response of the body leads to a transition to a competent type of immunological response, which contributes to the death

of the parasite and its daughter cysts with the subsequent development of calcification of the destruction site. It is the transfer of the body's immunological reaction to the Th₁ cell type of response that should be the priority for correcting the occurring disorders. Accordingly, the use of preventive measures to correct immunological suppression will help improve the results of treatment of patients with the hydatid form of liver echinococcosis.

Through experimental studies, we have proven that a key role in the body's immunological response is played by immunoglobulins, in particular G , which, when exposed to echinococcosis membrane antigens, trigger the body's response according to a certain type of cellular-humoral mechanism.

At the same time, in the presence of purulent-septic complications, in conditions where the focus of destruction remains, all measures taken aimed at detoxification and correction of identified immune disorders can be considered nullified due to their low effectiveness.

In this regard, in the main group of patients, the algorithm of therapeutic and diagnostic measures was based on the first stage in differentiating patients, dividing them into subgroups with a complicated course hydatid echinococcosis of the liver and without complications.

In cases where a patient had a complicated form of hydatid echinococcosis of the liver, measures were taken to differentiate its type and the nature of damage to organs and systems of the body with full verification of the final diagnosis.

The main emphasis was on reducing the preoperative period and performing surgical intervention as soon as possible after preparing the patient.

Immediately in the postoperative period , the degree of immunological suppression was assessed , which determined our further treatment tactics.

With a compensated degree of immunological suppression, no special correction of the immune system was required. Conventional therapy was carried out, including antibacterial, detoxification and restorative treatment. At the same time, targeted antiparasitic chemotherapy was started .

In case of subcompensated immunological suppression in the early postoperative period, measures were also carried out, including antibacterial, detoxification and restorative therapy. However, along with this, correction of immunological suppression was required through targeted immunomodulation (thymomimetics , stimulators of antibody production and phagocytosis).

At Once a compensated degree of immunological



suppression was achieved , targeted antiparasitic chemotherapy was started . With a decompensated degree of immunological suppression in the early postoperative period, second-level detoxification therapy was carried out, which included plasmapheresis , hemosorption , infusion detoxifying solutions. Metabolic and antioxidant drugs were also prescribed. In order to correct immunological suppression , replacement immunotherapy (immunoglobulins, interferon alpha , thymomimetics , Roncoleukin) was started in the early postoperative period .

This approach to therapeutic measures was carried out until the level of subcompensated or compensated degree of immunological suppression was reached , against which targeted antiparasitic chemotherapy began.

In patients with an uncomplicated form of hydatid echinococcosis of the liver, at the first stage, the stage of development of the parasitic cyst was diagnosed in comparison with the degree of immunological suppression of the body.

All measures, including immunomodulation and replacement immunotherapy, were carried out according to the same scheme as in the case of the complicated form of hydatid echinococcosis of the liver. However, in contrast to the complicated version of the disease, in the uncomplicated case, surgical intervention was performed only when the level of compensated immunological suppression was reached , which is achieved by carrying out the above-described treatment and diagnostic algorithm.

After targeted antiparasitic chemotherapy for 30 days, the degree of immunological suppression was re-diagnosed .

CONCLUSIONS :

1. In patients with a complicated form of hydatid echinococcosis of the liver, the main emphasis is on reducing the preoperative period. In the postoperative period, the degree of immunological suppression is assessed , which determines further treatment tactics.

In patients with an uncomplicated form of hydatid echinococcosis of the liver, at the first stage it is necessary to diagnose the phase of development of the parasitic cyst in comparison with the degree of immunological suppression of the body. However, in contrast to the complicated version of the disease, in the uncomplicated case, surgical intervention is performed only when the level of compensated immunological suppression is reached .

2. The use of developed clinical and immunological methods for predicting and preventing

purulent-septic complications of liver echinococcosis made it possible to reduce their incidence from 28.2% to 10.1%. Compared with the control group of patients, an overall increase in the number of patients with good and satisfactory treatment results by 7.2% was achieved, and the number of patients with unsatisfactory treatment results and mortality was reduced by 1.8 and 3 times, respectively.

3. The use of our developed methods for predicting and preventing purulent-septic complications of hydatid echinococcosis of the liver, based on identifying the degree of immunological suppression and the use of targeted methods for its correction, made it possible to significantly improve treatment results in the long-term period by 2.1 times and improve the quality of life of patients with the achievement of good results by the end of the study up to 99.7%.

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