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A METHOD FOR TREATING A RESIDUAL CAVITY DURING ORGAN-PRESERVING OPERATIONS FOR LIVER ECHINOCOCCOSIS WITH A RIGID FIBROUS CAPSULE

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Abstract

The study included patients with echinococcosis of the liver who had a rigid fibrous fibrous capsule. All patients were divided into two groups. The main group included 94 patients with echinococcosis of the liver, who underwent additional treatment of the residual cavity according to the proposed method during laparotomy or laparoscopic operations after the echinococcectomy stage, a total of 113 cysts were removed. Laparoscopic echinococcectomy was performed in only 8 patients in the comparison group (who had 10 cysts) and 21 patients in the main group. All the results were followed up to 3 months after the operation. There were 13 (15.9%) patients with complications in the comparison group and 2 (3.3%) in the main group.

Keywords: echinococcosis of the liver; residual cavity; organ-preserving surgery; rigid fibrous capsule; FarGALS solution

The study included patients with echinococcosis of the liver who had a rigid fibrous (dense, non-collapsing) fibrous capsule. The improved method of processing the fibrous capsule includes the following distinctive steps: laser exposure to the wall of the fibrous capsule with a high-energy Lakhta-Milon laser; additional antiparasitic chemical treatment with FarGALS solution; application of HEMOBEN powder composition to the cavity walls.

All patients were divided into two groups. The main group included 94 patients (2020-2023) with echinococcosis of the liver, who underwent additional treatment of the residual cavity according to the proposed method during laparotomy or laparoscopic operations after the echinococcectomy stage, a total of 113 cysts were removed. The comparison group included 88 patients (2016-2019) who had similar interventions performed using the traditional method, a total of 108 cysts were removed.

The main part of the conducted studies concerned two types of operations – open and laparoscopic echinococcectomies, resection operations are included only to analyze the structure of operations for liver echinococcosis. In the comparison group, traditional echinococcectomy was performed in 82 (87.2%) cases, in the main group in 60 (68.2%) patients, laparoscopic echinococcectomy in 8 (8.5%) and 21 (23.9%) patients, respectively, liver resections (marginal or anatomical) were performed in 4 (4.2%) and 7 (7.9%) of patients.

Laparoscopic echinococcectomy was performed in only 8 patients in the comparison group (who had 10 cysts) and 21 patients in the main group (25 cysts). According to the method of treatment of the residual cavity in the comparison group, partial pericectomy with drainage of the residual cavity was performed in 9 (90% of the total number of cysts) cases, in the main group - 15 (60%). Abdominization of the residual cavity was performed on 1 (10%) and 10 (40%) cysts, respectively.

The average duration of drainage of the residual cavity (from among the cysts) in the comparison group was 6.6±2.7 days, in the main group 4.0±1.5 days ($t=2.62$; $p<0.05$). The

duration of abdominal drainage (among patients) was 5.5±2.3 days versus 3.3±1.4 days (t=2.46; p<0.05).

These groups were characterized by a higher incidence of various early postoperative complications. In particular, complications were noted in 3 (37.5%) patients in the comparison group and 1 (4.8%) patient in the main group ($\chi 2$= 5,222; df=1; p=0.023). Fluid accumulation in the residual cavity was noted in 2 (25%) and 1 (4.8%) cases, respectively, biliary fistula occurred in 1 (12.5%) patient in the comparison group, reactive pleurisy was also noted in 1 (12.5%) and (4.8%) cases in both groups.

All patients were followed up to 3 months after laparoscopic echinococcectomy. In both groups, there was no accumulation of fluid in the residual cavity, however, in the main group, suppuration of the residual cavity developed in 1 (12.5%), limited fluid accumulation in the abdominal cavity in 1 (12.5%) case and reactive pleurisy also in 1 (12.5%) patient. In the main group, limited fluid accumulation in the residual cavity was detected in 1 (4.8%) patient. There were 2 (25%) patients with complications in the comparison group and 1 (4.8%) in the main group. There were no significant differences in this feature ($\chi 2$= 2.558; df=1; p=0.110).

In the subgroup of open echinococcectomies, according to the method of elimination of the residual cavity, the cases were distributed as follows. Partial pericystectomy with drainage was performed for 72 (74.2%) cysts in the comparison group and 16 (22.2%) in the main group, abdominization of the residual cavity at 15 (15.5%) and 14 (19.4%), respectively, suturing of the residual cavity on drainage in 4 (4.1%) and 15 (20.8%) Complete suturing of the residual cavity was performed only in 6 (6.2%) cases in the comparison group and 27 (37.5%) cases in the main group.

The average duration of drainage of the residual cavity (from among the cysts) in the comparison group was 5.9±2.6 days, in the main group 4.1±2.6 days (t=3.18; p<0.05). The duration of abdominal drainage (among patients) was 4.7±1.8 days versus 3.2±1.4 days (t=5.69; p<0.05).

In our observations, various complications developed in 15 (18.3%) patients in the comparison group and 3 (5.0%) patients in the main group ($\chi 2$= 5.531; df=1; p=0.019). Accumulation of fluid in the residual cavity was noted in 6 (7.3%) and 1 (1.7%) cases, respectively, biliary fistula occurred in 5 (6.1%) patients in the comparison group. By conservative measures, complications were resolved in 18 (22.0%) patients in the comparison group and in 4 (6.7%) cases in the main group. Percutaneous puncture of the residual cavity was required in 5 (6.1%) patients in the comparison group and in 1 (1.7%) in the main group.

All the results were followed up to 3 months after the operation. In the comparison group, fluid accumulation in the residual cavity was noted in 4 (4.9%) patients, suppuration of the residual cavity in 3 (3.7%), limited fluid accumulation in the abdominal cavity in 6 (7.3%) cases and reactive pleurisy in 5 (6.1%) patients. In the main group, fluid accumulation in the residual cavity was detected in 1 (1.7%) patient, in 1 more case there was limited fluid accumulation in the abdominal cavity and reactive pleurisy. There were 13 (15.9%) patients with complications in the comparison group and 2 (3.3%) in the main group ($\chi 2$= 5,749; df=1; p=0.017).

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