

STRATIFICATION OF CRITERIA BASED ON THE FREQUENCY OF COMPLICATIONS AFTER ECHINOCOCECTOMY FROM THE LIVER

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Abstract. Postoperative complications in the surgical treatment of liver echinococcosis remain a relevant problem. **The purpose of study is** to stratify clinical, morphological and anatomo-topographic criteria by their degree of influence on the development of complications after liver echinococcectomy with the formation of the CECS scale. **Materials and methods.** The study included data from 746 patients who underwent echinococcectomy in 2020–2025. **Results.** The overall complication rate was 25.9%, and the severe complication rate was 5.1%. **Conclusions.** The developed Cystic Echinococcosis Complication Score (CECS) scale, based on 12 stratified features, demonstrates clinical applicability in predicting the risk of complications during echinococcectomy and contributes to the personalization of treatment tactics.

Keywords: liver echinococcosis; surgical treatment; echinococcectomy; complications; CECS scale

Introduction. The high medical and social significance of liver echinococcosis, especially in endemic regions, continues to remain at a consistently high level. According to the World Health Organization, "tens of thousands of new cases of the disease are reported annually, including fatal cases, especially when diagnosis is delayed and treatment is not provided in a timely manner" [1, 2]. Diagnosis of liver echinococcosis is often difficult due to its long asymptomatic course, the difficulty of visualizing deep-seated cysts, and the need for differential diagnosis with other liver tumors. Despite the development of modern instrumental and serological methods, cases of diagnostic errors and late verification of the disease stage remain frequent. Postoperative complications in the surgical treatment of liver echinococcosis remain an urgent problem. "Of particular clinical

significance is the high level of postoperative complications, such as suppuration of the residual cavity, bile fistulas, intra-abdominal abscesses, and disease recurrences, which, according to various data, reach 20-30%" [3-7]. The lack of unified tools for quantifying the risk of complications requires the development of prognostic scales for individualized treatment strategies.

The purpose of the study. To stratify clinical, morphological, and anatomotopographic criteria according to their impact on the development of complications after liver echinococcectomy, forming the CECS scale.

Materials and methods. The study included data from 746 patients who underwent echinococcectomy in 2020-2025. 48 features were evaluated, including cyst morphometry, localization, disease course, and background conditions. χ^2 -test and ROC analysis were used. The CECS scale included features with high prognostic significance.

Results. The overall complication rate was 25.9%, and the severe complication rate was 5.1%. 12 key signs significantly associated with complications were identified: breakthrough into the bile ducts (68.7%), bronchopleural fistulas (80%), relapses (42.0%), contact with the main vessels (70.9%), intraparenchymal location (51.3%), calcification of the capsule (47.4%), large cysts ≥ 10 cm (43.2%), multiple cysts (53.9%), cyst suppuration (75%), diabetes mellitus (83.8%), concomitant liver pathology (49%) and combined/disseminated echinococcosis (84.6%). The CECS scale showed high predictive value (AUC >0.6).

Conclusion. The developed CECS scale based on 12 stratified features demonstrates clinical applicability in predicting the risk of complications during echinococcectomy and contributes to the personalization of treatment tactics.

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