

## SIV2: LAPROSCOPIC APPROACHES FOR TREATMENT OF LIVER CYST IN CHILDREN

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**Background** Intensive introduction of laparoscopic operations in liver surgery became possible due to the progress in the development of new technologies and their significant advantages that these techniques have. The use of special equipment has made such operations for liver cysts (LC) in children more acceptable without compromising its effectiveness. Morphological and topographic-anatomical features of the liver in children of different age groups make it necessary to develop careful approaches in laparoscopic surgery of treatment of LC.

The aim of the study. Analysis and evaluation of the experience of using laparoscopy in the treatment of LC in children.

**Materials and methods** We have experience of laparoscopic treatment of LC in 54 children aged 2 to 16 years. Among them, 14 patients had parasitic (echinococcal) LC, and 40 children had LC of nonparasitic origin. To establish the diagnosis, clinical and laboratory data were used ultrasound of the liver, abdominal organs and retroperitoneal space, CT scan, MRI and serological tests.

**Results** In the treatment of LC in children, we have used a differentiated approach using laparoscopic methods of surgical interventions, depending on the origin and location of the cyst.

The main stages of laparoscopic treatment of LC were: diagnostic laparoscopy, during which we confirmed the location of LC, then the cyst, was punctured with special needle, aspiration of the contents, sanitation or de-epithelization of the cyst cavity (depending on the etiology). If the anatomical localization of LC permitted then the excision cysts and sutures were place to decrease the cavity which was drained. In other cases, the cyst cavity was drained with subsequent prolonged sanitation and constant active aspiration of the contents of this cavity.

An effective method for anti-parasitic treatment of echinococcal LC was suggested, which is based on the administration of 10% alcohol solution of iodine and 96% ethanol, with an exposure of 7 minutes each, followed by 0.02% chlorhexidine for 5 minutes each, followed by the excision of cyst cavity and removal of the chitinous shell with scolex. Successful de-epithelisation of nonparasitical LC was sufficient to sequential processing with swabs of 10% alcoholic solution of iodine, 96% ethanol and 0.02% chlorhexidine for 5 minutes each.

The proposed tactics of laparoscopic surgical treatment of children with LC allowed eliminating cysts in liver and achieving complete absence of relapses.

The advantages of the laparoscopic method of treatment of LC compared to traditional method(Open): low injury ra-

te; low abdominal organs trauma, minimized blood loss, reduced risk of adhesions; reduction in duration of operation and anesthesia; more favorable postoperative period with less pain in simplified patient care, reduction of hospital stay, The disadvantages of laparoscopic interventions for LC were: a greater danger of leakage of the contents of the echinococcal cyst into the abdominal cavity, through the rigidity of the cyst wall and high intra-cystic pressure, the difficulty of evacuating the dense contents of the parasitic cyst, laparoscopic intervention only superficially located LCs are available, with a deep intra parenchymal location of the cysts it is impossible to use the laparoscopic method Treatment, laparoscopic intervention cannot be performed after the previous open operations in upper abdominal areas.

**Conclusions** For the treatment of LC in children a differentiated approach can be laparoscopic method depending on the origin and location of the cysts.

Laparoscopic interventions are advisable for surface-located LC on the anteroposterior surface of liver.

The differentiation of pathogenic variants of the liver cysts determines the choice of methods of surgical approach, methods of correction and postoperative management of patients what basically influences on the postoperative period and on the final prognosis of surgical treatment.

**Key words** liver cyst, diagnosis, treatment, laparoscopy, children