

## HEPATIC HYDATIC CYST. CASE REPORT

A. D. SABĂU<sup>1</sup>, D. BRATU<sup>2</sup>, ANCA DUMITRA<sup>3</sup>, CORINA LUPUȚIU<sup>4</sup>, A. POPENTIU<sup>5</sup>, D. SABĂU<sup>6</sup><sup>1,2,3,4,5,6</sup> Clinical Emergency Hospital of Sibiu**Keywords:** liver hydatid cyst, surgical instruments, technics**Abstract:** Liver hydatid cyst, still a common condition in Romania requires modern therapeutic solutions, tailored and matched to the specific of the case. We present a female patient of 26 years old, diagnosed with liver hydatid cyst located in the liver segments 2-3, resolved with laparoscopic patented instruments (Suction device of hepatic hydatid cyst and ovarian cyst (OSIM Patent 120809/30.04.2008 - Dan Sabău) fragmentation device for hydatid cyst content (OSIM Patent no. 120810/30.04.2008 - Dan Sabău) and completed by the atypical liver resection of segments 2-3.**Cuvinte cheie:** chist hidatic hepatic, instrumental, tehnică**Rezumat:** Chistul hidatic hepatic, afecțiune încă frecventă pe teritoriul României, necesită soluții terapeutice moderne, adaptate și corelate specificului cazului. Prezentăm cazul unei paciente de 26 de ani, diagnosticată cu un chist hidatic hepatic localizat la nivelul segmentelor hepatice 2-3, soluționat laparoscopic cu ajutorul instrumentarului brevetat (Dispozitivul de aspirare al chistului hidatic hepatic și al chistului de ovar (Brevet OSIM 120809/30.04.2008 – Dan Sabău). Dispozitivul pentru fragmentarea conținutului chistului hidatic (Brevet OSIM nr. 120810/30.04.2008 – Dan Sabău) și finalizată cu rezecție hepatică atipică la nivelul segmentelor 2-3.

## INTRODUCTION

Hydatid cyst of the liver is a relatively common disease in our country with great social impact and economic importance, mainly due to long durations of hospitalization and slow healing, especially for classical interventions which were performed on open way

## CASE REPORT

CC patient aged 26 years, living in urban area, without significant personal history presented to our service on 13.03.2008 after an outpatient abdominal ultrasound which revealed: inhomogenous liver, with the presence in the left lobe of an heterogeneous round oval parenchymatous image with halo, and hypoecogen center with a diameter of 4.6 cm, right hepatic lobe with antero-posterior diameter of 14 mm, left hepatic lobe with antero-posterior diameter 7 cm, transonic gallbladder, virtual bile duct lumen portal vein-12 cm, right kidney, spleen and the left kidney without significant changes, urinary bladder with some echoes floating. We decide the admission of the patient in 2nd Surgery Clinic of the Clinical Emergency County Hospital Sibiu for investigation and treatment.

Clinical symptoms of the patient, non-specific, showed a non sistemized dyspepsia which begins about two months ago, with periods of relative improvement but also of aggravation which is why he decided to conduct an ultrasound examination. Clinically, the patient had pain in the epigastric when we perform deep palpation.

Laboratory analysis: Le: 6100/mmc, He: 4.46 million / mmc, Hb: 13.1 g%, Ht: 39.6%, Tr: 259.000/mmc 'gluc: 95 mg / dl, urea: 20 mg / dl, AlkP: 29U / l, Amy: 63U / L, ALT: 21U / l, AST: 16U / L, De Bilt: 0.50 mg / dl, GGT: 24U / L, PT = 11.7 s, INR = 0.99, APTT = 26 s, R: 0.89.

It was decided to perform a CT scan, useful for exact

locating and to complete the information provided by ultrasound, with the result: hypodense image with native densitometric values of 35-40 HU, clearly defined its own wall, and partially calcified with 4cm diameter, located at liver segments II and III level, marginal anterior. Administration of iv contrast substance do not change the internal of the structure, suggesting possible type IV hydatid cyst. (Fig. 1)

After clinical investigations, imaging and laboratory the diagnosis was: hydatid cyst located in the liver segments II and III.

On 03/15/2008 we perform surgical intervention under general anesthesia with oro-tracheal intubation. Surgery was performed using standard laparoscopic instruments and in addition:

- working channel optical telescope
- rigid rod of 10 mm
- The extraction device for liver hydatid cyst and ovarian cyst (OSIM 120809/30.04.2008 Patent - Dan Sabău) (Fig. 2)
- fragmentation device for hydatid cyst content (OSIM Patent no. 120810/30.04.2008 - Dan Sabău) (Fig. 2)
- working trocar 20 mm

Abdominal cavity was approached with the introduction of laparoscopic optical trocar supraumbilical and two 5 mm trocars: one in the right flank and a second in the left upper quadrant.

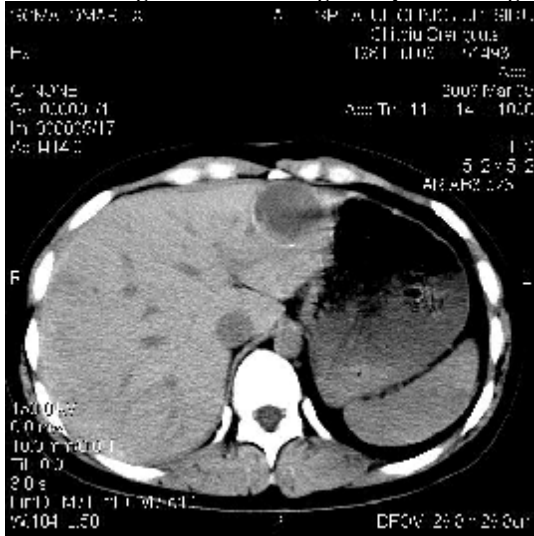
After inspection of the abdominal cavity and the location of the cyst (Fig. 3) it has been introduced additional 20 mm trocar in the epigastric region, for an approach perpendicular to the pericystic surface. The alcoholized mesh was introduced through the 20 mm trocar in the peritoneal cavity (Fig. 5). After that, through this trocar was introduced the suction device for hepatic hydatid cyst and ovarian cyst (OSIM 120809/30.04.2008 Patent - Dan Sabău), useful tool in

<sup>1</sup>Corresponding Author: A. D. Sabău, Clinical Emergency Hospital of Sibiu, Romania; e-mail: alx\_sabau@yahoo.com; tel +40-0722282175  
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## CLINICAL ASPECTS

protecting the abdominal cavity by creating an extraperitoneal working tunnel (Fig. 4).

**Figure no. 1. Image obtained through computed tomography**



**Figure no. 2. Utilised instrumentary**



**Figure no. 3. Intraoperative alcoholized bandage**



Initially there were instilled about 20 ml of alcohol 90 for the inactivation of the cyst, then its content was fully drawn.

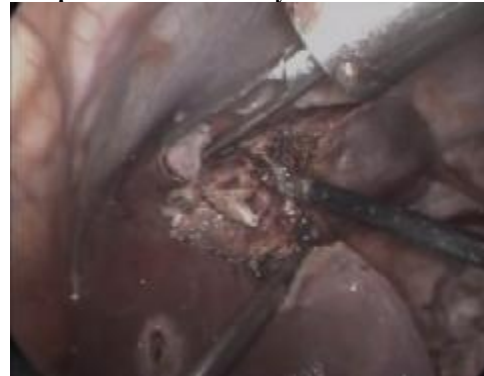
Relatively fluid cyst content made necessary the use of fragmentation device for hydatid cyst content (OSIM Patent no. 120810/30.04.2008 - Dan Sabau) to facilitate extraction.

Subsequently we made an unusual laparoscopic liver resection of segments II and III in the liver with electrocautery without ligation or suture of the hepatic parenchyma (Fig. 5).

**Figure no. 4. Dispositive for the protection of the abdominal cavity (breveted Dan Sabău)**



**Figure no. 5. Hepatic resection atypical on laparoscopic way with the help of the electrocautery**



Surgery was completed with removal of the mesh from and draining the the peritoneal cavity with a drain placed in proximity of the area of liver resection.

**Figure no. 6. Aspect of the abdomen aftersurgery**



Patient's postoperative course was favorable with treatment: painkiller, antibiotic and antiparasitic (Albendazole), she left the hospital in 24.03.2008. Postoperatively the patient followed the treatment with two courses of Albendazole two months with 14 days break.

Postoperative patient tracking was performed by clinical examination and ultrasound monthly until six months postoperatively, the evolution was favorable, with regeneration

of liver parenchyma (Fig. 7).

**Figure no. 7. Ecographical image obtained in 6 months after surgery**



### CONCLUSIONS

Laparoscopic surgery in hepatic hydatid cyst offers a solution to resolve this condition, shortening hospital stay and healing of patients reintegrating them in society and in employment.

The indications of laparoscopy in this condition are universal, the only contraindications are related to contraindications of laparoscopy in general.

Current possibilities allow for complex surgery (liver resection) by laparoscopy, the impediments are mainly related to the learning curve.

Hepatic segments 2 and 3 are the most accessible for laparoscopic resections, because liver parenchyma has a reduced volume and is relatively accessible.

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