

ECHINOCOCCUS MULTILOCULARIS-HELMINTOSIS WITH “MALIGN” DEVELOPMENT

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SUMMARY:

Echinococcus multilocularis v.alveococcosis has become an increasingly serious public health issue. In endemic areas of Southern Germany, Eastern France and North West Switzerland the estimated prevalence is 1-10/100000. Its evolution is chronic and heavy, with primary tumor like multymicrocyst proliferation in the liver and secondary “spread” in other organs. Without adequate surgical treatment morbidity and mortality are significant.

The author presents two cases ref. patients treated in Department of Surgery at University Hospital of Lausanne, located in an endemic region for this disease.

Key words: Echinococcus multilocularis, malign development,

INTRODUCTION:

History: First R.Virchov in 1850 established the helminthosis origin (1). In 1863 L.Leuckart announced when alveococcosis in humans is origin from eggs of the tapeworm from genus Echinococcus. In the 50 years of the XX century the science work of R.Rouch, E.Schiller (1954 - USA) , H. Vogel (Germany), K.U.Abuladze (1957) established two types of Echinococcus: *E.granulosum* (hydatid cyst) and *E.multilocularis*.

Epidemiology: The definitive host for *E.multilocularis* is usually the red fox. The humans can be accidentally infected by ingesting feces containing gravid proglotids. Once these eggs infect humans, a larva is released. Then it penetrates the intestinal epithelium and is transported through the blood stream to the target organs .The first barrier to the venous return is the liver. Once the targeted organs have been penetrated, a fluid-filled cyst starts to develop (2).

Pathology: The hepatic lesion is usually made up of scattered area of small cysts and vesicles. They are typically slow growing with estimated incubation period of 5-15 years.

In advanced form of the disease a central area necrosis will form. Scattered areas of calcification may also be seen. The cysts can cause “spread “in other organs like lung, brain, and kidney.

The cysts of *E.multilocularis* have exogenous type of

growing; they expand the neighbor structure and provoke respectively symptomatology: biliary invasion with icter and cholangitis, biliary cirrhosis, pancreatitis.

Clinic: We can determine two clinical stages:

- Asymptomatic- the time between invasion and first symptoms.

- Clinical-gastrointestinal discomfort localized in upper right quadrant, hepatomegaly, icter, ascites, biliary cirrhosis, subfebrils, pruritus, hypotension.

Diagnosis: It is non specific diagnostic methods for *E.multilocularis*. Without clinical symptomatology; the infection can stay undiagnosed very long time.

Usually it can be detected during a prophylactic exam. In science many authors report elevation of the eosinophils count. US and CT can detect heterogeneous mass with necrosis in the center of the liver. Native roentgenography can detect calcification in liver.

Angiography can fix a tumor mass in the liver with hypervascularized zones in liver.

Immunodiagnostic methods are used to determine the antibody: ELISA, RCPH (3, 4)

Treatment: Only a surgery can lead to good results for patients with alveococcosis. Dependant of dislocation of the formation liver resection is proposed. In case of hepatic hilum invasion only liver transplantation is life saving method (5,6).

MATERIAL:

For a period of six months specialization in surgery two patients were operated for *E.multilocularis*.

Case #1: A 49 years old woman, blood group A, Rh (-) is accepted in Department of Surgery with tumor formation in the liver, diagnosed intraoperatively in previous laparotomy in OBG. No clinical signs before first operation.

Laboratory values:

Differential count: eosinophiles -7.0 (normal range 0.0-5.0); Ba -2.5 (normal 0.0-2.0)

Liver test: Billirubin direct-3.6(normal range 0.0-3.4 µmol/l); GGT -42 UI/L (normal range 10-40 UI/L)

US: heterogeneous mass, with calcification localized in left hepatic lobe and part of VIII segment of the right lobe, with infiltration of the right diaphragm.

Selective angiography: bilobar lesion with hypervascularization in III, IV and VIII of the liver. No invasion of the vein port and hepatic veins.

CT: tumor like formation localized in III, IV and VIII liver segments with infiltration of the diaphragm.

TREATMENT:

Surgery: Left hepatectomy extended to VIII and I segment. Partial resection with plastic if the diaphragm.

Medicamentous: Mebendazol 400mg, 2x/day
Ciproxin 500mg, 2x/day

Case #2: A 71 years old woman, blood group B, Rh (+). About 3 months with symptoms of intensive icter, pruritus, acholic stools, and darkened urine. No previous treatment and diseases.

Laboratory levels:

Creatinin - 254 µmol/L (normal range 44-80)
BUN - 33.7 µmol/L (normal range 2.9-6.4)

Liver test:

ALT - 88 UI/L Billirubin Total/Direct 180/101 µmol/L
AST - 76 UI/L (normal range 0.0-3.4 µmol/l);
GGT- 348 UI/L
Amilasa : 317 UI/L

US; CT: Tumor mass of the right hepatic lobe, with infiltration of the hilum and diffuse dilatation of the

intrahepatic bile ducts in right. Multiples calcifications.

Selective angiography: Malign lesion of the right hepatic lobe with hypervascularisation, correspond to Cholangiocarcinoma. Infiltration of the right branch of the vein port.

Immunodiagnostic: ELISA positive for E.multilocularis

TREATMENT:

Preoperative: Fibrogastroduodenoscopy, ERCP and stent application

Surgery: Extended right hepatectomy to I and IV segment. Reconstruction with Roux-Y hepaticojejunostomy. A 4 time clamping (Pringle maneuver) 18-3-19-5 minutes.

Medicamentous:

Mebendazol 400mg, 2x/day
Ciproxin 500mg, 2x/day

DISCUSSION:

E.muslilocularis is not a frequent disease in the world, but in the endemic areas it has become a significant issue. It is a benign helminthosis, but also presents characteristics of the malign disease: local continuous growing with expansion – infiltration of the closely situated structures-biliary ducts, arteries, veins (7). It can cause intoxicated mechanotraumatic and icteric syndromes and provoke “metastases” in other spots and organs. The treatment is usually surgical: right or left hepatectomy with extension, dependant of mass localization.

In case of complete invasion of the liver hilum only possibility is liver transplantation.

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