

# ECHINOCOCCOSIS IN LIVER - A CASE REPORT

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## Abstract:

The most common cause of hydatid disease in humans is infestation by the parasite *Echinococcus granulosus*. A 33 years old female patient with complaints of upper abdominal pain, discomfort, anorexia, nausea and loss of weight, was referred for ultrasound assessment of the whole of the abdomen. On ultrasound, her liver was enlarged in size. A fairly large cystic area measuring about (12 cm x 7.6 cm) having internal septations giving the appearance of cart-wheel is noted in right lobe of liver. Intrahepatic biliary Channels and CBD were not dilated. Gall bladder, pancreas, spleen, both kidneys and other organs were found to be normal. No free fluid was seen in cul-de-sac. The patient was diagnosed as a case of echinococcosis in liver.

**Key words:** Hydatid disease, Echinococcosis, Liver.

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## Introduction:

The most common cause of hydatid disease in humans is infestation by the parasite *Echinococcus granulosus*. *E. granulosus* has a worldwide distribution. It is more prevalent in sheep-and cattle-raising countries, notably in the Middle East, Australia, the Mediterranean Endemic regions, and in the Untited States and Northern Canada.

A case of Echinococcosis in liver is reported here.

## Case Summary:

A 33 years old female patient with complaints of upper abdominal pain, discomfort, anorexia, nausea and loss of weight, was referred for ultrasound assessment of the whole of the abdomen. On ultrasound her liver was enlarged in size. A fairly large cystic area measuring about (12 cm x 7.6 cm) having internal septations giving the appearance of cart-wheel is noted in right lobe of liver. Intrahepatic biliary Channels and CBD were not dilated. Gall bladder, pancreas, spleen, both kidneys and other organs were found to be normal.



**Fig.-1:** Ultrasonography of Liver showing Hydatid Cyst with cart-Wheel Appearance.

No free fluid was seen in cul-de-sac. The patient was diagnosed as a case of echinococcosis in liver.

## Discussion:

*Echinococcus granulosus* is a tapeworm, 3 to 6 mm in length, which lives in the intestine of the definitive host, usually the dog. Its eggs are excreted in the dog's feces and swallowed by the intermediate hosts-sheep, cattle, goats, or humans. The embryos are freed in the duodenum and pass through the mucosa to

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reach the liver through the portal venous system. Most of the embryos remain trapped in the liver, although the lungs, kidneys, spleen, central nervous system, and bone may become secondarily involved. In the liver, the right lobe is more frequently involved<sup>1,2</sup>. The surviving embryos form slow-growing cysts. The cyst wall consists of an external membrane that's approximately 1 mm thick, which may calcify (the ectocyst). The host forms a dense connective tissue capsule around the cyst (pericyst). The inner germinal layer (the endocyst) gives rise to brood capsules that enlarge to form protoscolices the brood capsules may separate from the wall and form a fine sediment called hydatid sand. When hydatid cysts within the organs of herbivore are eaten, the scolices attach to the intestine and grow to adult tapeworms, thus completing the life cycle<sup>1</sup>.

There are some sonographic features of hepatic hydatid disease, e.g.

- Simple cysts:
- Cysts with detached endocyst secondary to rupture
- Cysts with daughter cysts
- Densely calcified masses.

Ultrasound has been used to monitor the course of medical therapy in patients with abdominal hydatid disease. Changes noted in the resolution of the disease were a gradual reduction in cyst size 43%, membrane detachment 30%, progressive increase in echogenicity of the cyst cavity 12% of patients.

A reappearance or persistence of fluid within the cavity may signify inadequate therapy and viability of the parasites<sup>3</sup>.

A hydatid cyst is typically acquired in childhood and it may, after growing for some years, cause pressure symptoms. These vary, depending on the organ or tissue involved. In nearly 75% of patients with hydatid disease the right lobe of the liver is invaded and contains a single cyst. In others a cyst may be found in lung, bone, brain or elsewhere<sup>4</sup>.

The diagnosis depends on the clinical, radiological and ultrasound findings in a patient who has lived in close contact with dogs in an endemic area, complement-fixation, immunofluorescent assay are positive in 70-90% of patients.

#### **Conclusion:**

Ultrasound has excellent role in detecting hepatic pathology as it is non-invasive, cheap, easily available and widely acceptable method.

Personal hygiene, satisfactory disposal of carcasses, meat inspection and deworming of dogs can greatly reduce the prevalence of hydatid diseases.

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