

# Hydatid Disease Of The Liver During Pregnancy: A Case Report And Review Of Literature

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## Abstract

Hydatid disease or Echinococcosis is caused by the consumption of food contaminated by canine faeces. The incidence of Hydatid disease in pregnancy ranges from 1 in 20,000 to 1 in 30,000. The most common site of hydatid cysts is the liver. The diagnosis of liver hydatid cysts is not difficult but the management poses problems more particularly during pregnancy. Both medical and surgical treatments are available but there is no consensus and each case has to be individualized. We present a case of liver hydatid cyst diagnosed during pregnancy which was managed by strict monitoring and albendazole therapy.

## INTRODUCTION

Echinococcosis or hydatid disease is an infection of sheep, cattle, pigs, horses or rodents caused by larval stage of canine tapeworm *Echinococcus granulosus* or *Echinococcus Multilocularis*. Hydatid cysts due to the former are found more commonly in sheep-rearing areas of the world namely Australia, New Zealand, Argentina, Chile and Mediterranean region. [1] The latter has a more restricted geographical distribution being found in Arctic and sub-arctic regions namely USA, Canada, Europe and Asia. [1]

Man serves as intermediate host, being infected by ingestion of food contaminated by eggs excreted by the definitive host (canine). Hydatid cysts may remain asymptomatic for many years and may be found incidentally on imaging. These cysts can be found in any organ but liver and lung hydatids are most common. [1] Hydatid cysts during pregnancy are rare and there is no standardized recommended treatment. Both surgical and medical modalities have been tried. We present the case of a second gravida detected to have a liver hydatid cyst during midpregnancy pregnancy with an idea to highlight the dilemmas regarding decisions in management during pregnancy, labor and puerperium.

## CASE REPORT

The patient was a 32-year-old second gravida, resident of northern India. This was a spontaneous pregnancy. First trimester of pregnancy was uneventful and all routine investigations including a targeted anomaly scan were normal. The patient received folic acid, iron and calcium. At

22 weeks gestation the patient had an episode of sudden onset pain in the right upper abdomen that subsided spontaneously after 4 to 5 hours. She experienced a similar attack of pain 10 days later. On examination vitals were stable and there were no localizing signs. However, an ultrasound of the upper abdomen revealed a 8\*6 cm multiloculated exophytic cyst with no calcifications in the left lobe of liver and a single live fetus with growth corresponding to 25 weeks pregnancy (Figure 1). A provisional diagnosis of hydatid disease was made which was supported by a positive antiechinococcal antibody testing by ELISA (IgG). On repeat questioning the patient admitted to having a pet dog a few years back.

### Figure 1

Figure 1: Exophytic multiloculated cyst in liver along with intrauterine fetus



An opinion from the gastrointestinal surgeons was sought. A conservative approach to the hydatid cyst was decided as the surgeons feared that preterm labour may be precipitated and acknowledged the risk of severe anaphylaxis during surgery. The patient was started on oral Albendazole in a dose of 400mg once a day. Serial liver function tests were done which were normal. The patient was monitored with serial ultrasounds done biweekly with a close watch beyond 34 weeks. The distance between the liver cyst and the uterine fundus was measured at each ultrasound. At 36 weeks this distance equaled 1.5cm. There was no episode of pain or sudden increase in cyst size all this while.

The patient went into spontaneous labor at 37+5 weeks. She received prophylaxis against anaphylaxis (antihistaminics, Steroids) during labor. She delivered a 3-kilogram healthy female baby. Placenta did not reveal any abnormality on gross examination and histopathology.

Anti-helmenthic medication was continued post partum. A CT Scan done post partum showed only a liver hydatid cyst. There was negligible change in size of cyst. The patient and her baby were discharged on the fourth post partum day on Albendazole. A partial Cystectomy with deroofting and enucleation was done 2 months post partum. The patient has been well on follow-up for 14 months without any recurrence till date.

### DISCUSSION

There are 2 species of Echinococcus; namely Echinococcus granulosus which causes cystic Echinococcosis (tape-worm

of dogs) and the alveolar Echinococcosis (tape-worm of foxes) is caused by E multilocularis. [1]. The adult worm Echinococcus granulosus is 5 mm long and consists of a scolex (head) and the proglotids (2-3), which contain the eggs. These proglotids are transmitted to humans from ingestion of food contaminated with canine faeces. These cysts are most common in liver (52-77%) followed by lung (8.5-44%), abdominal cavity (8%), kidneys (7%), CNS (0.2-2.4%), and bone (1-2.5%). Presentation varies with site; most are asymptomatic till very late.

The incidence of hydatid disease in pregnancy is 1 in 20,000 to 1 in 30,000. Hydatid disease during pregnancy has been reported as early as 1971. [2] Jackisch and colleagues, [3] have rightly mentioned that prior to therapy of intraabdominal masses pregnant patients from typical endemic areas ought to be checked up for parasitic infections such as cystic echinococcosis as during pregnancy less than 5% cysts are malignant. In English literature there are few cases reported of hydatid disease during pregnancy. Each of these cases was managed differently. These cases were brought to notice for symptoms of acute abdomen, hepatomegaly or incidentally on sonography.

Although the diagnosis can easily be made with serology and radioimaging, its treatment is not as straightforward. Management of hydatid during pregnancy is challenging for fear of rupture, anaphylaxis, preterm labour, and intrauterine growth restriction due to large hepatomegaly. No clear-cut guidelines are available on management on account of paucity of reported cases. Till now there is no consensus of management of hydatid disease during pregnancy.

Medical treatment consists of Albendazole. Response to Albendazole depends on thickness of the cyst wall and the absence of calcifications. A thin cyst wall and no calcifications were probably responsible for successful medical treatment in our patient. Surgery may be conservative or extensive. Nowadays, puncture aspiration injection and reaspiration (PAIR) is gaining popularity. Surgery may be technically difficult if not impossible during pregnancy. Whether surgery should be done during pregnancy is debatable. However, the decision on the type of surgery should be individualized.

While albendazole is the mainstay of treatment, it cannot be used in the first trimester due to the risk of teratogenicity. Commonly reported anomalies if given in first trimester include limb defects and facial abnormalities.

In a retrospective series from Libya [2] over 9 years hydatid disease was identified in 13 females, 4 of which were pregnant. In 3 of these the hydatid cyst was removed at time of caesarean section (2 from POD and one in adnexae) while the 4<sup>th</sup> patient had cyst removal after delivery.

One case of hydatid disease has been reported from India, which resulted in obstructed labor. [4] This patient was found to have a pelvic hydatid diagnosed intraoperatively at time of caesarean section. The cyst was aspirated and excised completely. There is another report of successful hydatid cyst aspiration during pregnancy. [5]

In 1995 Golaszewski and co-workers [6] reported a case of a primigravida who was diagnosed to have a large 20 cm hydatid cyst of liver at 14 weeks of gestation. She successfully underwent subtotal cystectomy under anti-helminthic cover at 19 weeks of gestation.

There are many reports of hydatid disease during pregnancy amongst Turkish population. Van Vivet et al [7] managed their patient conservatively with Albendazole. Other workers opted for a different approach (surgical). Deniz Can and his team [8] resected hydatid cysts of spleen and left liver cysts untouched in a multigravida 25 weeks pregnant. Another patient, a Lebanese was operated at 8 weeks period of gestation [9]

A very large retrospective series conducted over 20 years reported 9 pregnant patients with hydatid operated in antenatal and 3 in postpartum period.[10] Hemi-hepatectomy during pregnancy for hydatid cyst has also been reported in literature. [11]

Recurrence of hydatid is always a fear. Recurrent hydatid disease has also been reported during pregnancy [12] probably due to decreased cell-mediated immunity in pregnancy. Albendazole is recommended to prevent recurrence.

Our case showed no increase in cyst size and symptoms of acute abdomen did not reappear. Therefore we decided to treat her conservatively with albendazole with serial sonography

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