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Pregnancy with Hydatid Cyst of Liver

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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 1in 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 hydatid cyst of liver diagnosed during pregnancy which was managed by strict monitoring and albendazole therapy.

Key words: Echinoccocosis, Hydatid Cyst, Liver, Pregnancy.

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 primigravida detected to have a liver hydatid cyst during pregnancy with an idea to highlight the dilemmas regarding decisions in management during pregnancy, labor and puerperium.

Case Report

The patient was a primigravida 25 years old, resident of northern India. This was a spontaneous pregnancy. The first trimester of pregnancy was uneventful and all routine investigations were normal. The patient had taken folic acid, iron and calcium.

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At 24 weeks gestation, the patient had pain on right upper abdomen which subsided after 4-5 hours. She experienced a similar attack of pain 10 days after. On examination vitals were stable. However, ultrasound abdomen revealed an exophytic cyst in the right lobe of liver (8 cm) with no calcification and a single live fetus with growth corresponding to 25 weeks of pregnancy. A provisional diagnosis of hydatid cyst was made which was supported by a positive anti-echinococcal antibody testing by ELISA (IgG). An opinion from the surgeon was sought. A conservative approach to the hydatid cyst was decided because of the fear of preterm labour and the risk of severe anaphylaxis during pregnancy. The patient was put on albendazole in a dose of 400 mg once a day. Serial liver functions tests were done which were normal. The patient was monitored regularly.

The patient went into spontaneous labour at 38 weeks. Ultrasound examination showed 8 cms hydatid cyst along with 38 weeks pregnancy [Fig.1,2]. She received prophylaxis (antihistaminics, steroids) during labour. She delivered a 3 kilogram healthy baby. Placenta did not reveal any abnormality on gross examination. Anti-helminthic medication was continued during post-partum period. Patient was then referred to surgical department for removal of the cyst and further treatment.

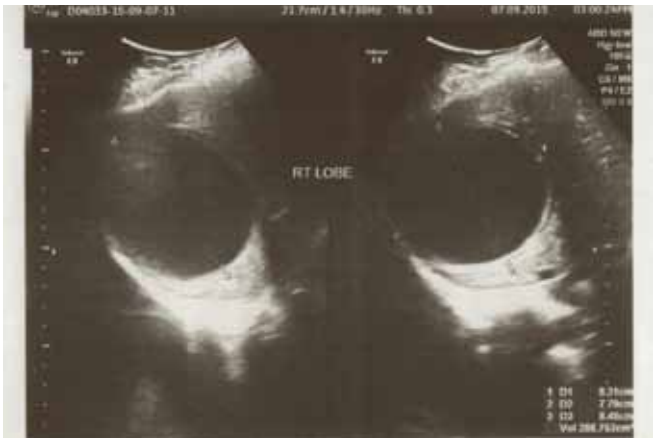

Fig.1: Ultrasound examination showing hydatid cyst in the right lobe of liver.

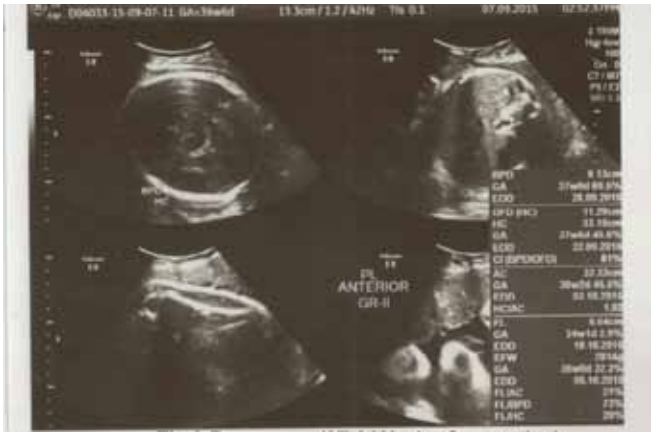

Fig.2: Ultrasound examination showing 37 weeks pregnancy.

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 I in 30,000. Hydatid disease during pregnancy has been reported as early as 1971 [2]. Jackisch and collegeues [3] have rightly mentioned that prior to therapy of intra-abdominal masses, pregnant patients from

typical endemic areas ought to be checked up for parasitic infections such as cystic echinococcosis. 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 cyst 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 which depends on thickness of the cyst wall and the absence of calcifications. A thin cyst wall and no calcifications were probable reasons for successful medical treatment in our patient. Surgery may be conservative or extensive. Nowadays, puncture aspiration injection and re-aspiration (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 pouch of Douglas and one in adnexae) while the 4th 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 antihelminthic 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. Deniz Can and his team [8] resected hydatid cysts of spleen and left liver cysts untouched in a multigravida 25 weeks pregnant female. 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 sonograph.

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