Hydatid cyst of the ovary: a case report

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Introduction: Hydatid disease is a parasitic infection caused by Echinococcus granulosus. The disease is found most commonly in the liver and lungs, but no organ is immune. Patients with hydatid cysts at unusual locations present with atypical presentations and pose a diagnostic dilemma.

Case presentation: A 25-year-old woman presented with complaints of pain in the lower abdomen. Ultrasonography revealed cystic disease of the ovary. An exploratory laparotomy was done and the ovary with the cyst was removed. The diagnosis of hydatid cyst was confirmed on histopathology.

Conclusion: Primary involvement of the pelvic organs, especially the ovary, is very rare in hydatid disease. A high index of suspicion is required in order to make a correct diagnosis pre-operatively to prevent spillage of the cyst contents during surgery.

Keywords: hydatid cyst; ovary.

Introduction

Hydatid disease is caused by Echinococcus granulosus (dog tapeworm), which lives in the intestinal tract of primary hosts such as dogs and other carnivorous animals. Transmission of the disease to humans occurs by direct contact with a primary host or ingestion of eggs from water and food sources. Humans are accidental intermediate hosts and represent a terminal event (dead end) for the parasite. From the gastrointestinal tract, the infected larvae pass to various organs and tissues where they produce cystic lesions known as hydatid cysts (Arora & Arora, 2014).

Hydatid disease is a significant health problem in India and has been reported in many states. Hydatid cysts occur most frequently in the liver, followed by the lungs, muscles, bones and rarely the spleen, pancreas and adrenals; however, no organ of the body is immune. Various studies have reported a very low prevalence of hydatid cysts in ovaries, ranging from 0.4 to 0.6 % (Bal et al., 2008; Mush-taque et al., 2012), with the majority of cases being secondary involvement due to dissemination of the cyst from the primary site, such as the liver or lungs (Cattorini et al., 2011). To date, very few cases of primary hydatid cyst of the ovary have been reported in the literature (Adewunmi & Basilingappa, 2004; Dharsandia et al., 2012; Gaym et al., 2002).

Here, we present a case of a primary ovarian cyst in the right ovary of a young woman.

Case report

A 25-year-old woman presented to the outpatient department with complaints of fever, an abdominal lump and a dull aching pain in the right lower abdomen for 4 months. The patient did not give any history of changes in bowel or bladder habits or of any other lump elsewhere in the body. A pregnancy test was negative. On general physical examination, the patient was febrile; however,

<table>
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<th>Table 1. Laboratory parameters of the patient</th>
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<td>Parameter</td>
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<td>Haemoglobin</td>
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<td>Total leukocyte count</td>
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<td>Differential leukocyte count</td>
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<td>Erythrocyte sedimentation rate</td>
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<td>C-reactive protein in serum</td>
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<td>Random glucose test</td>
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Abbreviation: USG, ultrasonography.
**Fig. 1.** Hydatid cyst of the ovary with attached Fallopian tube.

**Fig. 2.** Haematoxylin and eosin-stained section showing scolices, brood capsules and hooklets.
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Hydatid cysts are formed by development of the larval stage of the parasite in the intermediate host. In humans, this occurs primarily in the liver and lungs. In certain cases, the embryo escapes the pulmonary circulation and enters the systemic circulation, from which it can enter the female reproductive system. A primary hydatid cyst of the ovary is extremely rare. Most cases occur as a result of the rupture of hepatic cysts. In the present case, a hydatid cyst was not found in the liver and there was no history of previous echinococcosis, indicating a primary ovarian cyst. Patients usually present with an abdominal mass with or without pain, the symptoms varying with the site and size of cyst and complications occur due to the enlarging mass. The difficulties that occur in making a correct diagnosis are due to the non-specific clinical symptomatology, associated with atypical USG and radiological images, where the ovarian hydatid cyst can simulate either polycystic ovarian disease or an ovarian tumour (Gaym et al., 2002; Sharma et al., 2012). The USG scan, especially if performed transvaginally, is an important imaging examination that allows recognition of the cystic aspect of the lesion. Computed tomography is superior for detection of extrahepatic hydatid cysts, as it confirms the diagnosis by revealing daughter cysts and calcifications of the cyst wall (Cattorini et al., 2011). Indirect haemagglutination tests and ELISAs have approximately 85% sensitivity. However, the most important factor for diagnosis is an awareness of the atypical localizations of the cyst and a high index of suspicion, especially in endemic areas.

The treatment of choice in ovarian hydatid cysts is surgery, which can be either radical or conservative. However, care must be taken to reduce the risk of possible intra-operative iatrogenic cyst rupture. Administering post-operative albendazole therapy can reduce the risk of dissemination of the cyst to other organs, which can lead to recurrences (Arif et al., 2008).

**Conclusion**

An ovarian hydatid cyst is a rare finding. It can be primary or more commonly secondary. On USG, it mimics cystic ovarian disease or a solid ovarian mass. Awareness and a high grade of suspicion combined with USG and computed tomography are required to make a pre-operative diagnosis of *Echinococcus* cyst, which makes it possible to avoid intra-operative iatrogenic rupture. The treatment of choice is radical cystectomy with anti-helminthic therapy to prevent recurrences. Patients should be followed up regularly to detect any recurrences. Echinococcosis can appear at any site in the human body, and so should always be considered in the differential diagnosis of cystic space-occupying lesions or unidentified tumour formations in patients from endemic areas.

**Discussion**

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