



Case Report

Bilateral Primary Ovarian Hydatid Cysts – A Rare Occurrence

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ABSTRACT

Primary ovarian hydatid cyst involving bilateral ovaries is an exceedingly rare occurrence. Involvement of the ovaries in hydatid disease is often secondary in nature as a consequence of peritoneal dissemination /lymphatic spread. Primary involvement of the ovaries by the hydatid process is a very rare event. Imaging modalities like high frequency transvaginal ultrasonography (TVS) and Magnetic Resonance Imaging (MRI) play a pivotal role in the detection of hydatid cysts. We report the case of a 55 years old female patient who was diagnosed with bilateral large hydatid cysts of ovarian origin based on the radiological findings on MRI, lab parameters and positive immunological tests.

Key Words: Ovarian hydatid cyst, Ultrasound, Magnetic Resonance imaging.

INTRODUCTION

The incidence of hydatid cyst in the pelvis is a rare entity, with incidence ranging between 0.2 – 2.25 % only^(1,2). Ovary is the most common location for pelvic hydatid cyst to occur, however this is most frequently secondary in nature as a consequence of peritoneal dissemination. The most frequently involved organs are the liver and lungs⁽³⁾.

Primary involvement of ovary is exceedingly rare. The occurrence of hydatid cyst involving ovaries is often secondary to dissemination by a cyst located at a different site following rupture or spillage in to peritoneal cavity by means of lymphatic channels⁽⁴⁾.

The hydatid cysts are asymptomatic and are generally of larger size when detected. They may cause symptoms either when they are ruptured or causing compression over the nearby adjacent structures.

CASE REPORT

A 55 years old female presented to our hospital with complaints of lower abdominal pain and vague lower abdominal mass with distension for a period of 5 months. On per abdomen examination, vague abdominal mass was palpable in the lower abdomen along with tenderness on deep palpation. The patient was advised an ultrasound Pelvis as a preliminary imaging modality. The ultrasound

including high frequency Transvaginal Ultrasonography was done and revealed bilateral large multicysticpelvico-abdominal masses with evidence of multiple smaller cystic lesions within the larger lesions. A provisional diagnosis of bilateral ovarian malignancy (likely a type of cystadenoma / cystadenocarcinomas) was made and the patient was suggested correlation with clinical history and lab parameters. Haematological report was essentially normal except for raised acute eosinophilic count (15 %). White blood cells were 12000/ cumm. For further evaluation, in view of raised eosinophil counts, stool and blood culture was sent which yielded negative results. An USG guided FNAC was requested for ovarian malignancy, but procedure was not taken up due to raised eosinophilic counts and innumerable small cysts within the lesion, which raised a remote suspicion of hydatid cysts to the radiologists mind in keeping with pronounced eosinophilia. Serological tests were sent subsequently for echinococcusantigen which came out to be positive. The serological tests which included enzyme linked immunosorbent assay (ELISA) showed antibodies against *Echinococcusgranulosus* antigen. The titre in this case turned out to be higher than 1: 1600 which was deemed positive. Fine needle aspiration cytology was not done keeping in mind the risk of spillage of contents and anaphylactic reaction. However the incidence of anaphylaxis is reported to be low⁽⁵⁾.

Further evaluation with MRI Pelvis was done which revealed large multicystic mass lesions arising from the bilateral ovaries with septations and multiple smaller cysts within, which appeared hyperintense on T2 weighted and hypointense on T1 weighted sequences. The smaller cysts within the larger lesion (now labelled as daughter cysts) appeared more hypointenseas compared to mother cyst on the T1W sequence. The bilateral ovaries were not separately delineated from the larger multicysticlesions. The diagnosis was established as an echinococcal infection / hydatid cyst of ovaries keeping in mind the raised eosinophil

counts in conjunction with large cystic masses in bilateral ovaries and positive immunological tests. Screening was done for upper abdomen and thorax to look for any other primary hydatid lesion which could account for the ovarian lesions being secondary in nature but none was found. So the final diagnosis of bilateral primary ovarian hydatid cysts was made.

The patient was given a course of antihelminthic (albendazole) in a dose of 400 mg twice a day with meals for a total of 3 cycles , with each cycle of 28 days duration followed by a 14 day albendazole – free interval . A follow up scan was done after completion of 3 cycles which showed marked decrease in the size of ovarian cystic lesions and decrease in the patients discomfort due to regression of the size of the lesions. The patient was closely monitored and was called for repeated follow up scans. Repeat serological tests were also done which showed decreased antibody titre.



MRI axial T1W image shows bilateral large multicystic lesions in the pelvis which were subsequently diagnosed as ovarian hydatid cysts. The multiple smaller cysts within the larger cyst appeared more hypointense when compared to the larger mother cyst.



MRI coronal T2 W image showing bilateral large pelvic-abdominal cystic lesions with smaller cystic lesions within (daughter cysts) subsequently diagnosed as bilateral ovarian hydatid cysts.



MRI coronal T2 W Fat Suppressed image showing bilateral large pelvic-abdominal cystic lesions with smaller cystic lesions within (daughter cysts) subsequently diagnosed as bilateral ovarian hydatid cysts.

DISCUSSION

Ovary is a rare site for primary hydatid disease and is often secondary to dissemination from other sites by lymphatics⁽⁴⁾. Hydatid cysts grow slowly and are often asymptomatic and detected late. On

an ultrasound, hydatid cyst appears as an anechoic lesion with perceptible wall and mural nodularity within which suggests scolices. In the later stages, they appear as multiloculated cystic lesion with daughter cysts within. A suspected multicystic pelvic mass lesion in the relevant clinical setting and endemic area should raise a suspicion of hydatid cyst. Fine needle aspiration cytology (FNAC) may be helpful in establishing diagnosis of pelvic cystic mass lesion but is avoided to minimise the risk of anaphylaxis. There is no particular definitive laboratory tests for echinococcus. Screening is done by enzyme immunoassay or indirect hemagglutination (for Echinococcal antigen – Antigen 5, Antigen B, Myophilin, Antigen V2, which if gives positive result is followed by confirmation by counter current immunoelectrophoresis . Surgery is the mainstay of treatment. Percutaneous drainage of echinococcal cysts is another alternative treatment (PAIR- Puncture, aspiration, injection of a scolecidal agent – 20 % hypertonic saline and 95 % ethanol solution, reaspiration). Trail of antihelminthic drugs (albendazole) is given for small / unilocular hydatid cysts. Antihelminthic drugs have got 40 % success rates in the treatment of echinococcal infection. Albendazole causes sterilisation of the cyst, lowers the risk of anaphylaxis, decreases the tension in cyst wall and decreases the rate of recurrence.

REFERENCES

1. Adewunmi OA, Basalingappa HM. Primary ovarian hydatid disease in the Kingdom of Saudi Arabia. *Saudi Med J*. 2004;25: 1697-700.
2. Vural M, Yalcin S, Yildiz S, Camuzeuoglu H. Isolated type I pelvic cystic echinococcosis mimicking ovarian tumour. *N Am J Med Sci*. 2011;3: 289-91.
3. Aksu MF, Budak E, Ince U, Aksu C. Hydatidcyst of the ovary. *Arch Gynecol Obstet*. 1997; 261: 51-3.
4. Saidi F. Treatment of echinococcal cyst. In: Nyhus LM, Beker JR, Fischer JE, eds.

Mastery of Surgery. 3rd Edn. Little, Brown and Company 1998:1035–2.

5. Von Sinner WN, Nyman R, Linjawi T, Ali AM. Fine needle aspiration biopsy of hydatid cysts. *Acta Radiol* 1995; 36: 168-72.6 Adewunmi OA, Basilingappa HM. Primary ovarian hydatid disease in the Kingdom of Saudi Arabia. *Saudi Med J*.2004; 25:1697-700.