

## Case Report

# Imaging diagnosis of primary pelvic hydatid: a rare case report

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### ABSTRACT

Hydatid disease is caused by *Echinococcus granulosus* a commonly encountered parasitic infection to humans in tropical countries. Humans are accidental intermediate hosts of *Echinococcus*. Liver is the most commonly infected organ. Any organ of the body can be affected but primary pelvic hydatid disease is rarely reported. Preoperative diagnosis can be established by imaging studies such as ultrasonography, computed tomography (CT), and magnetic resonance imaging (MRI). Here, a case is reported of pelvic hydatid in a young female who presented with recurrent episodes of abdominal pain along with an abdominal mass. General physical examination and radiological evaluation confirmed a multiloculated cystic lesion in pelvis. Patient was subjected to laparotomy which confirmed the diagnosis of a primary pelvic hydatid disease.

**Keywords:** Intrapelvic cyst imaging, Pelvic hydatid Usg, Pelvic cystic lesion computed tomography

### INTRODUCTION

Hydatid disease is a zoonotic parasitic disease which is caused by *Echinococcus granulosus* or *Echinococcus multilocularis*. *Echinococcus granulosus* is able to reach any organ or tissue of the body via haematogenous or lymphatic routes where it develops into a hydatid cyst.<sup>1</sup>

The characteristic imaging findings have been described as calcification of the cyst wall, the presence of daughter cysts, or membranes.<sup>2</sup> Unusual sites of this disease can frequently cause diagnostic problems and lead to diagnostic delays and many potentially serious complications.

Peritoneal hydatidosis could be either primary or more frequently secondary to hydatid cysts in liver or rarely in spleen.

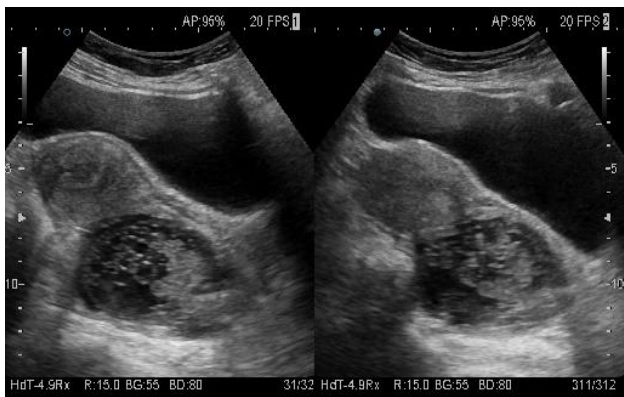
Primary peritoneal hydatidosis is rare and has been reported to occur in only 2 percent of all abdominal hydatid disease cases.<sup>3</sup> We report a case with a series of imaging of primary hydatid disease of the pelvic space.

### CASE REPORT

A 30 year lady with recurrent intermittent lower abdominal pain since 6 years presented to the gynaecology department. On general examination, the findings were right iliac fossa tenderness on palpation and per speculum examination revealed white per vaginal discharge. On per vaginum the uterus was anteverted. She was referred for ultrasonography (USG) of abdomen and pelvis.

During sonographic examination the Liver, Spleen and Kidneys appeared normal. In the pelvis the Left adnexa showed a well-defined cystic lesion with distinct daughter vesicles with the typical peripheral and central location within the mother cyst. A hydatid matrix with a solid appearance was also seen filling the rest of the cavity (Figure 1). The lesion showed no significant vascularity on colour Doppler (Figure 2). The cystic lesion was located posterior and towards left side of uterus, seen abutting left fallopian tube and few adjacent small bowel loops superiorly. These points favoured a benign, multiloculated cystic lesion posterior to uterus

and a probable diagnosis of Primary pelvic hydatid was kept. There was another cyst noted in the left ovary with anechoic content and posterior acoustic enhancement suggestive of simple ovarian cyst. Contrast enhanced Computed tomography (CECT) was advised to look for other intra-abdominal lesions. CECT abdomen revealed a heterogenous low attenuating well-defined lesion with peripheral wall enhancement with few internal septations in left adnexa with a simple left ovarian cyst (Figure 3).



**Figure 1: Transabdominal USG image showing mixed echoic, cystic lesion in left adnexa abutting posterior wall of uterus. The lesion shows multiple small cystic areas within and echogenic debris.**

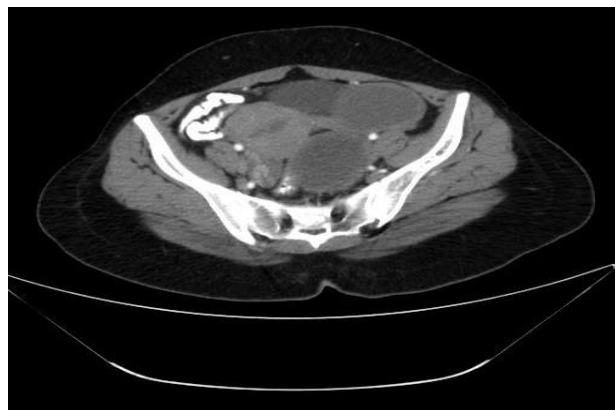


**Figure 2: Transvaginal ultrasound image shows thick walled cystic lesion with multiple small cysts thick membranes and echogenic debris within. No internal vascularity. The lesion is seen separate from ovary.**

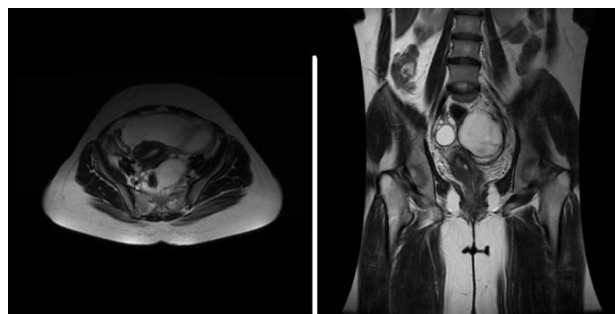
Magnetic Resonance Imaging of the pelvis revealed a well-defined altered signal intensity lesion in the pelvis appearing hyperintense on T2 WI with thin hypointense wall and multiple small T2 hyperintense cystic lesions inside showing fluid fluid levels. Layered, slightly hypointense content seen within the larger outer cyst (Figure 4).

The Final Diagnosis of Pelvic hydatid cyst was given. This diagnosis was confirmed after surgery and biopsy. The intraoperative findings were, a cyst in the

mesosalphinx area adjacent the left ovary, adherent to posterior wall of uterus and adjacent small bowel loops. The cyst was excised with left sided ovary and the fallopian tube. Biopsy showed features of gelatinous material oozed out of sections of the cyst and confirming it as Hydatid cyst.



**Figure 3: Contrast enhanced axial CT scan of abdomen shows thick walled, non-enhancing cystic lesion posterior to uterus with few internal septations, abutting uterus and left fallopian tube, separate from left ovary. Left ovary shows a non-enhancing cyst.**



**Figure 4: MRI pelvis, axial and coronal T2 weighted images show left sided hyperintense lesion with hypointense wall and multiple small hyperintense cystic spaces and hypointense areas within. The lesion is separate from both ovaries, abutting left fallopian**

## DISCUSSION

Peritoneal/ pelvic hydatid cyst is either primary or secondary. It represents an uncommon but significant manifestation of the disease (approximately 13%). Pelvic hydatid cysts are usually secondary to the rupture (spontaneous or accidental at surgery) of a primary hepatic, splenic, or mesenteric cyst.<sup>4</sup>

A solitary cyst in the pelvic cavity can be considered primary only when no other cysts are present in any other organ in abdomen. In such a case, the hydatid embryo gains access to the pelvis by hematogenous or lymphatic route. Pelvic hydatid cysts usually present as a nonspecific mass with pressure effects on adjacent organs as the rectum posteriorly and urinary bladder anteriorly.

Rarely, they can cause obstructed labour, obstructive uropathy, and renal failure. Sometimes, they can rupture spontaneously.<sup>5</sup> Serology and imaging is the main tools for establishing diagnosis. Ultrasound is the preferred first-line imaging, but CECT gives more precise information regarding the morphology (size, location, neighbourhood, and number) of the cyst.

Combination of preoperative albendazole therapy, surgery, and postoperative albendazole therapy is a useful regime. Albendazole suppresses the development of hydatid cysts following intraperitoneal inoculation of protoscolices.<sup>5</sup> En bloc resection without inducing rupture and spreading the daughter cyst is the followed treatment plan and accepted to be curative.<sup>6,7</sup>

## CONCLUSION

Primary hydatid cyst in the pelvis is rare form occurrence and can pose considerable diagnostic dilemma in female patients. A high degree of clinical suspicion coupled with dedicated ultrasound examination is useful to make the correct diagnosis.

Ultrasound in combination with other imaging modality such as Computed tomography, as in this case can reach to a confirmatory diagnosis and giving a better idea to the clinician for the best approach for the case. Magnetic resonance Imaging is the highly specific but its cost factor and lack of availability is less preferred.

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## REFERENCES

1. Lewall DB. Hydatid disease: biology, pathology, imaging and classification. *Clinical Radiology*. 1998;53(12):863-74.
2. Pedrosa I, Saíz A, Arrazola J, Ferreirós J, Pedrosa CS. Hydatid disease: radiologic and pathologic features and complications. *Radiographics*. 2000;20(3):795-817.
3. Parray FQ, Gagloo MA, Bhat AH, Chowdri NA, Noor MM. Peritoneal hydatidosis. *Internet J Surg*. 2007;9(2).
4. Yuksel M, Demirpolat G, Sever A, Bakaris S, Bulbuloglu E, Elmas N. Hydatid disease involving some rare locations in the body: a pictorial essay," *Korean J Radi*. 2007;8(6):531-40.
5. Seenu V, Misra MC, Tiwari SC, Jain R, Chandrashekar C. Primary pelvic hydatid cyst presenting with obstructive uropathy and renal failure. *Postgraduate Med J*. 1994;70(830):930-2.
6. Parray FQ, Ahmad SZ, Sherwani AY, Chowdri NA, Wani KA. Primary paraspinalhydatid cyst: a rare presentation of echinococcosis. *Inter J Surg*. 2010;8(5):404-6.
7. Arazi M, Erikoglu M, Odev K, Memik R, Ozdemir M. Primary echinococcus infestation of the bone and muscles. *Clin Orthopae Rel Rese*. 2005;432:234-41.

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