

# Hydatid cysts in abdominal wall and ovary in a case of diffuse abdominal hydatidosis: Imaging and pathological correlation

Muhammad Umar Amin<sup>1\*</sup>, Rabia Mahmood<sup>2</sup>, Shahid Manzoor<sup>3</sup>, Shoib Ahmad<sup>4</sup>

1. Department of Diagnostic Radiology, Combined Military Hospital, Attock, Pakistan

2. Department of Gynaecology and Obstetrics Fauji Foundation Hospital, Rawalpindi, Pakistan

3. Department of Radiology, Bahawal Victoria Hospital, Bahawalpur, Pakistan

4. Department of Surgery, Combined Military Hospital, Attock, Pakistan

\* Correspondence: Dr. Muhammad Umar Amin, MBBS, FCPS, Department of Diagnostic Radiology, Combined Military Hospital, Attock 43600, Pakistan (✉ umar1971@hotmail.com)

Radiology Case. 2009 May; 3(5):25-31 :: DOI: 10.3941/jrcr.v3i5.159

## ABSTRACT

We report a case of diffuse abdominal hydatidosis with correlation of imaging findings with gross pathology. The patient had involvement of liver, diaphragm, pelvic cavity, ovary and abdominal wall. Hydatid cysts were morphologically different from each other including calcified, uniloculated and multiloculated cystic lesions. Our case is rare as ovary and abdominal wall involvement is described in less than 1 % cases of hydatid disease.

## CASE REPORT

### CASE REPORT

A 65 year old woman presented with gradually increasing right sided local abdominal swelling and abdominal pain for two years (Fig. 1). There was history of cholecystectomy 7 years ago. There were no jaundice, bowel or bladder complaints. Her WBC was 8900/mm<sup>3</sup>, Hb was 7.1 g/dl and ESR was 120 mm and platelet count was 401000/mm<sup>3</sup>. Her vital signs were stable. Her chest radiograph showed markedly elevated right hemidiaphragm with right basal atelectatic bands (Fig. 2a). Her gray scale ultrasound of the abdominal swelling revealed a multiloculated cystic structure in the abdominal wall (Fig 3). No solid component was seen. The lesion was traversed by uniformly thickened septae. Calcified solid lesions were seen in the liver as well as two uniloculated cystic structures in the right lobe of the liver.

In addition multiple diaphragmatic calcifications were also seen. Two large cystic lesions were present in the pelvis (Fig. 3). The cyst on the left was seen above the bladder and had a single wall. The cyst on the right side was multiloculated. Scout view of an abdominal CT revealed inferiorly displaced urinary bladder (Fig. 2b). A completely solid calcified lesion was seen in the caudate lobe (Segment 1) while another calcified rounded lesion was seen in the superior segment of the left lobe of the liver (segment 2) (Fig. 4). In addition two large uniloculated cystic lesions were seen in the right lobe of the liver with out calcifications (Fig. 5). A large multiloculated cystic lesion was seen in the right sided abdominal wall confirming our ultrasound findings (Fig. 6).

The left sided pelvic lesion was uniloculated and had a thickened right sided wall. The multiloculated right sided pelvic cystic lesion was also clearly visualized on CT and an

impression of diffuse hydatidosis was made with involvement of liver, abdominal wall and pelvis with active cysts (Fig. 7 and Fig. 8). She was operated and endocystectomy was performed involving hepatic, abdominal wall and pelvic lesions. On exploration right ovary was enlarged and a large hydatid cyst was seen in it. Oophorectomy was performed and markedly vascular ovarian wall and hydatid cyst wall could easily be appreciated on naked eye examination. (Fig. 9-11). The patient was discharged 10th postoperative day and didn't come for follow up.

### DISCUSSION

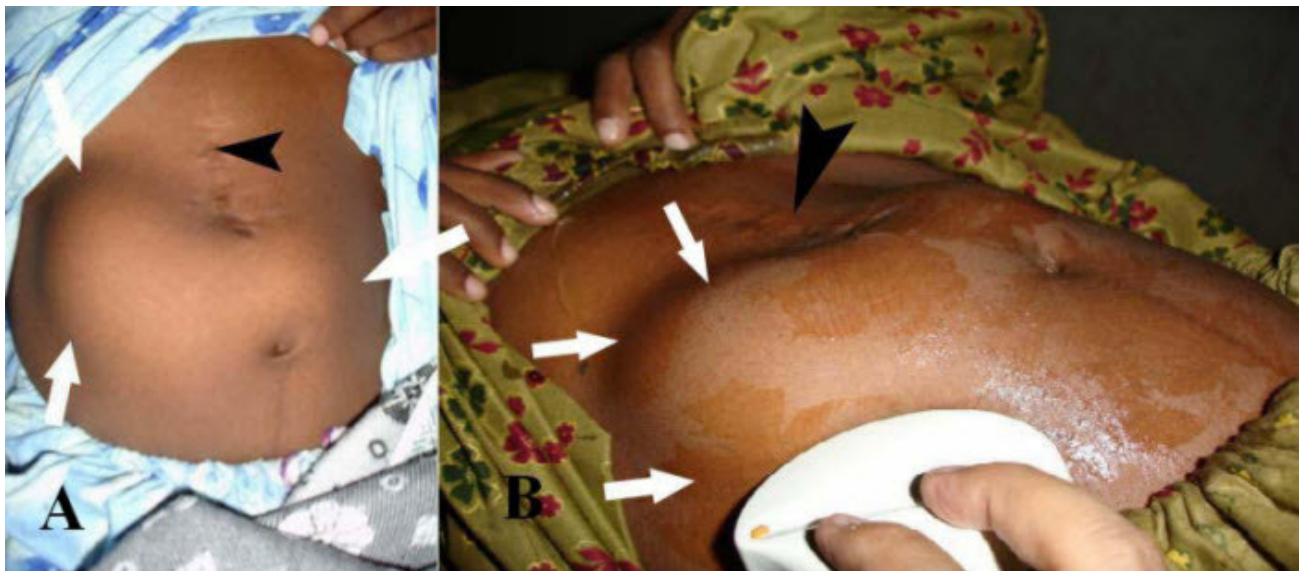
Hydatid cyst disease is a serious public-health problem in endemic areas. It is a tissue infestation caused by the larval stage of a parasite, *Echinococcus granulosus*. Although liver and lung are the most commonly involved organs, hydatid disease can occur in all viscera and soft tissues. In 10% of cases, hydatid disease arises in the viscera: mainly in the spleen (0.9-8%), but also in kidney, bone, heart and peritoneal cavity (0.5-5%). Other rare locations such as muscles have been described in less than 1% of cases of hydatid disease (1).

On CT, cyst fluid usually demonstrates water attenuation (3-30 HU). Calcification of the cyst wall or internal septa are easily detected at CT. A hydatid cyst typically demonstrates a high attenuation wall at unenhanced CT even without calcification (2). Detachment of the laminated membrane (endocyst) from the pericyst can be visualized as undulating membrane within the cyst on both ultrasound and CT scan (3).

Using combinations of specific imaging findings, the type of hepatic hydatid cyst rupture can be diagnosed in all cases (4).

There are many similarities between the hydatid cyst and other pelvic malignant diseases on the basis of imaging findings. Daughter cysts may resemble septal structures and mimic complicated ovarian cysts and even ovarian malignancy HD should be considered in the differential diagnosis of cystic pelvic masses, especially in endemic areas (5).

### FIGURES



### TEACHING POINT

Hydatid cysts can be seen at unusual locations and any cystic lesion especially if multiloculated should be suspicious of hydatid cyst in areas where it is endemic.

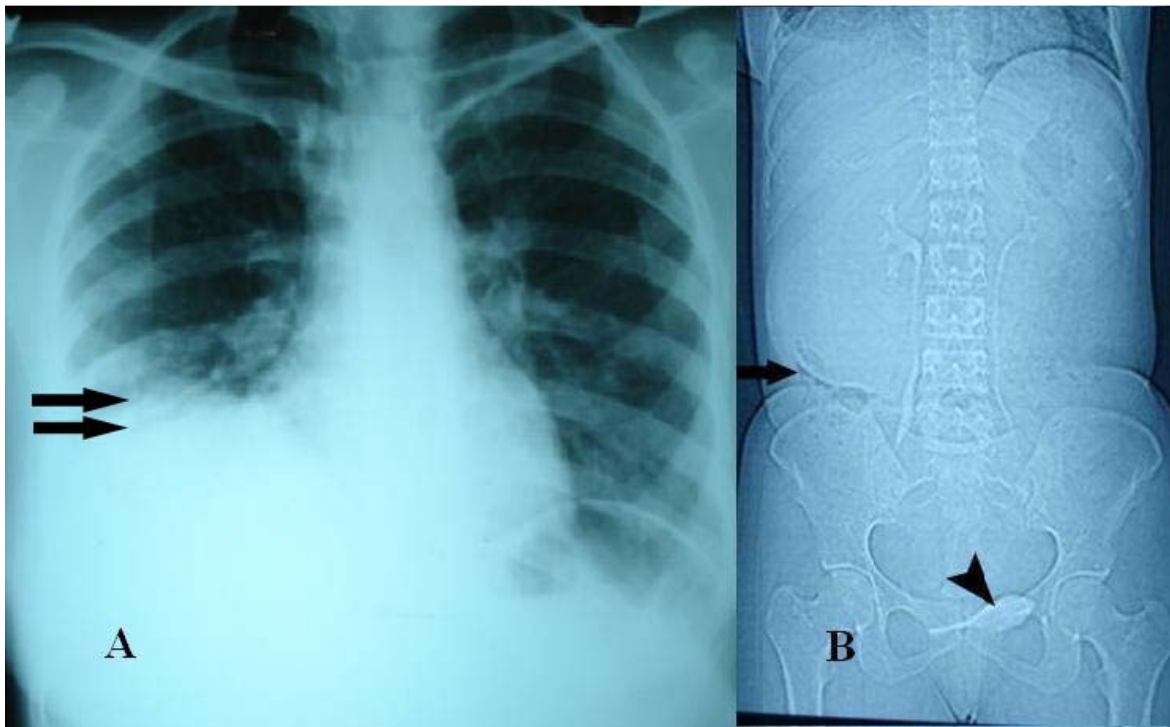
### ABBREVIATIONS

CT=computed tomography  
Hb = Hemoglobin  
HU=Hounsfield Units  
WBC= White Blood Count

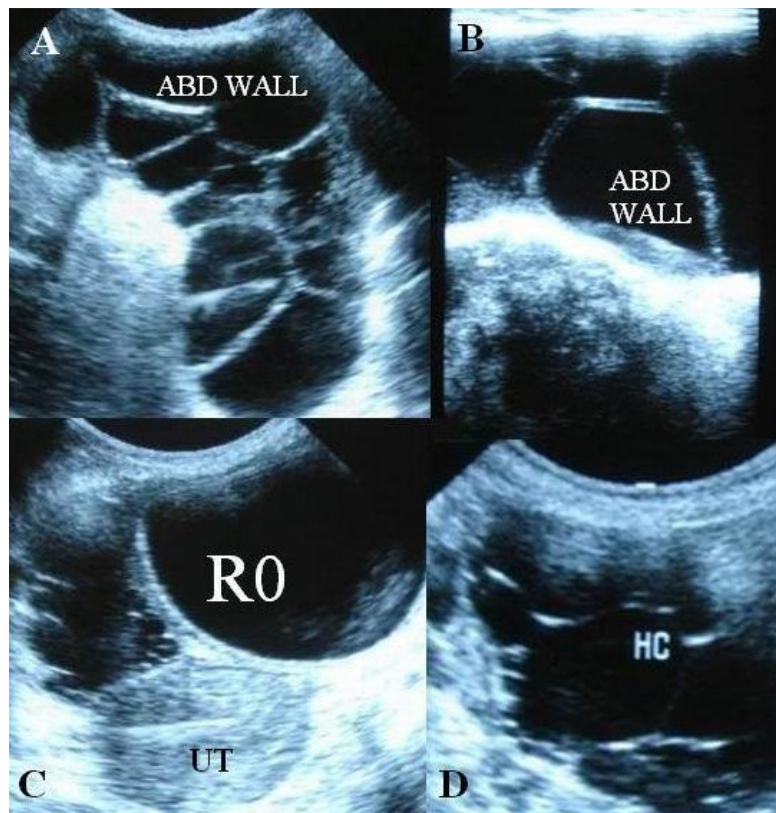
### REFERENCES

1. Zippi M, Siliquini F, Fierro A, Aloisio P, Corbi S, Scocchera F, Parlanti S, Garbarino V, Carrozzo F, Maccioni F. Diffuse abdominal hydatidosis: role of magnetic resonance imaging. *Clin Ter.* 2007; 158(3):231-3.
2. Amin MU, Tahir A, M. Akhtar S. Transdiaphragmatic rupture of huge hepatic hydatid cyst with formation of bronchopleural fistula. *JCPSP* 2007;17 (7): 431-32.
3. Amin MU, Tahir A, Shafique M. Images in Sonography: Detached Membrane Sign. *The Internet Journal of Radiology.* 2007; 5 (2).
4. Antonopoulos P, Tavernaraki K, Charalampopoulos G, Constantinidis F, Petroulakis A, Drossos Ch. Hydatid hepatic cysts rupture into the biliary tract, the peritoneal cavity, the thoracic cavity and the hepatic subcapsular space: specific computed tomography findings. *Abdom Imaging.* 2008; 33(3):294-300.
5. Ilica AT, Kocaoglu M, Zeybek N, Guven S, Adaletli I, Basgul A, Coban H, and Bilici A, Bukte Y. Extrahepatic abdominal hydatid disease caused by *Echinococcus granulosus*: imaging findings. *AJR Am J Roentgenol.* 2007; 189(2):337-43.

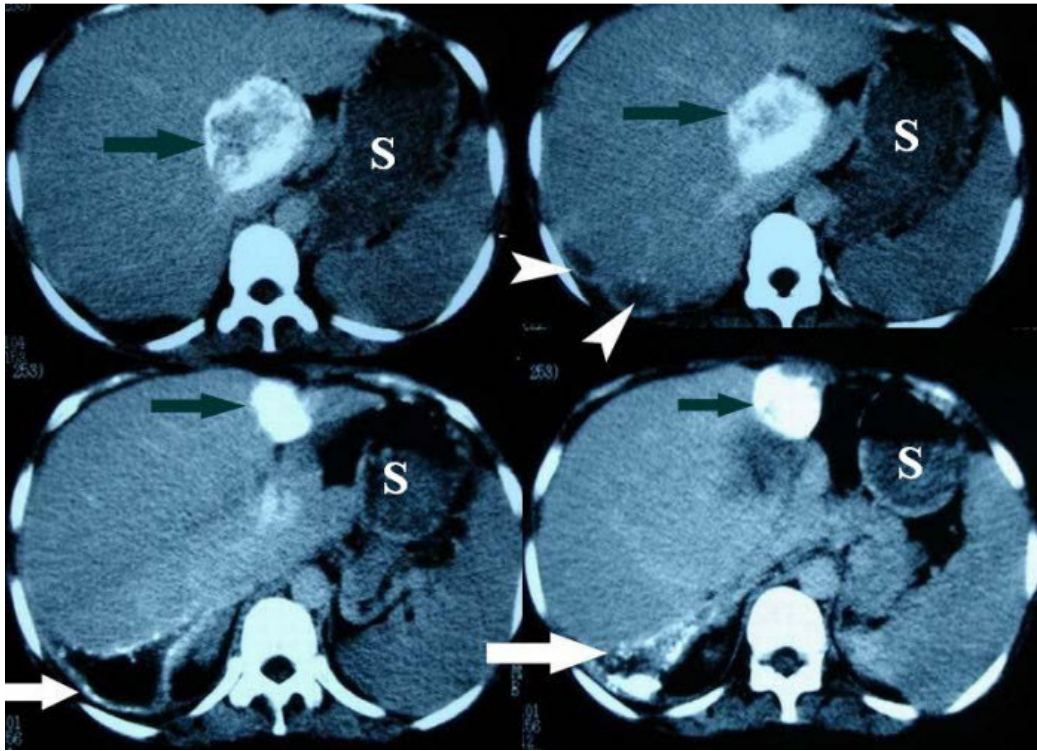
**Figure 1 (bottom):** 65 year old female with diffuse abdominal hydatidosis. Clinical picture showing (A) large right sided abdominal swelling crossing the midline (white arrows) along with cholecystectomy scar (black arrowhead). (B) Picture showing ultrasound of the abdominal wall swelling being performed to acquire the ultrasound images as seen in figure 3(A) and 3(B).



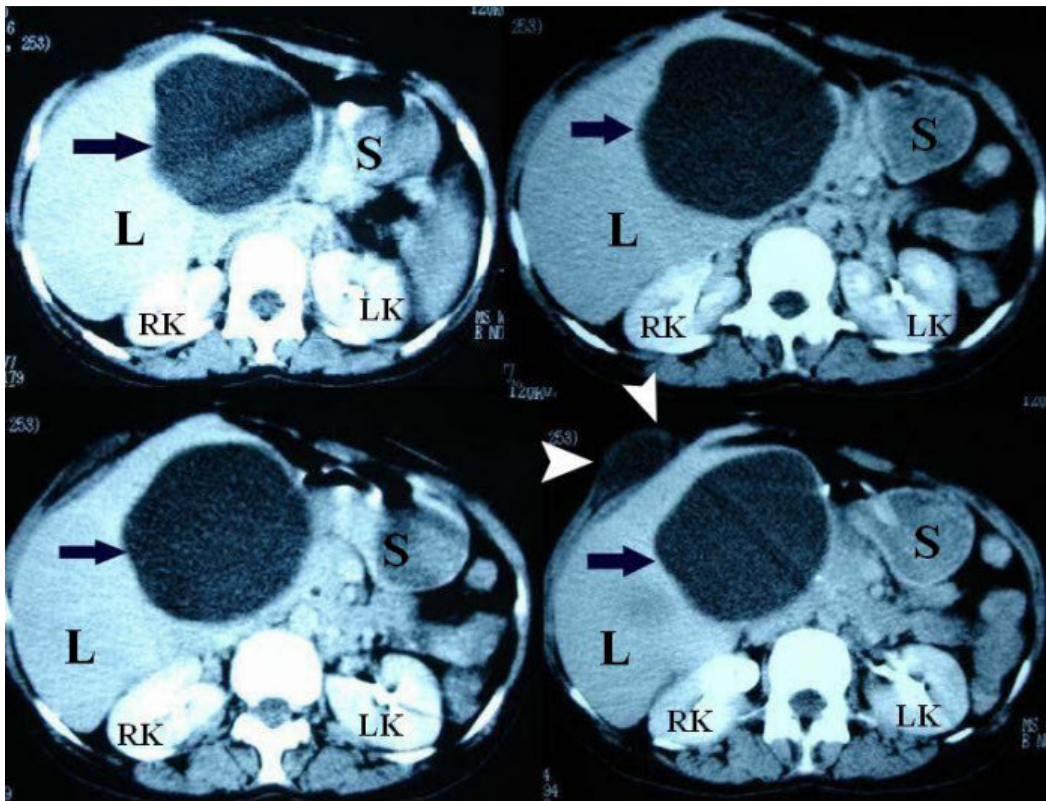
**Figure 2:** 65 year old female with diffuse abdominal hydatidosis. A) PA chest radiograph showing elevated right hemidiaphragm (arrowhead). B) Scout view of abdominal CT. Compressed and inferiorly displaced urinary bladder due to pelvic hydatid cysts (arrowhead). Arrow= Inferiorly displaced bowel loops due to abdominal hydatid cysts.



**Figure 3:** 65 year old female with diffuse abdominal hydatidosis. Gray scale ultrasound findings. (A, B) Multiloculated cystic lesion of the abdominal wall. (C) Unilocular ovarian hydatid cyst (RO). (D) Pelvic hydatid cyst with multiple thin septae, HC=Hydatid cyst



**Figure 4:** 65 year old female with diffuse abdominal hydatidosis. Axial contrast-enhanced CT image shows solid calcified hydatid cyst within liver (dark arrows). White arrows =diaphragmatic calcifications, arrowheads =diaphragmatic small hydatid cysts=Stomach.



**Figure 5:** 65 year old female with diffuse abdominal hydatidosis. Axial contrast-enhanced CT image shows uniloculated cystic lesion within liver. RK=Right Kidney. LK=Left Kidney, S=Stomach, L=Liver.

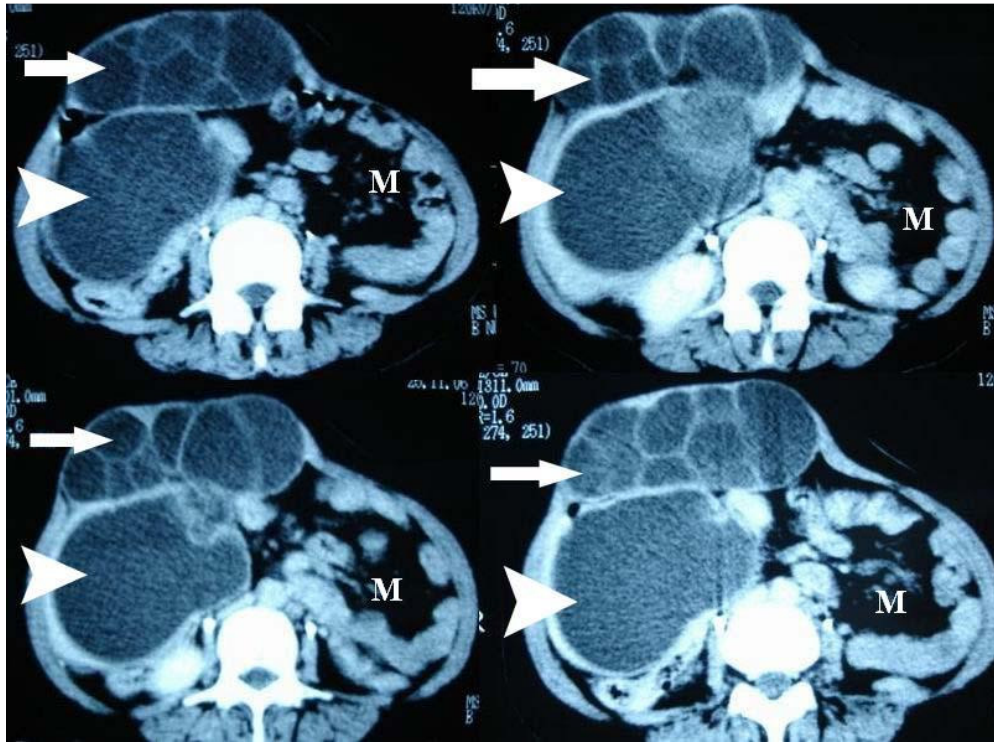


Figure 6: 65 year old female with diffuse abdominal hydatidosis. Axial contrast-enhanced CT image shows multi-lobulated hydatid cyst in the abdominal wall (white arrow) and within the liver (arrowhead). M=Small bowel mesentery.

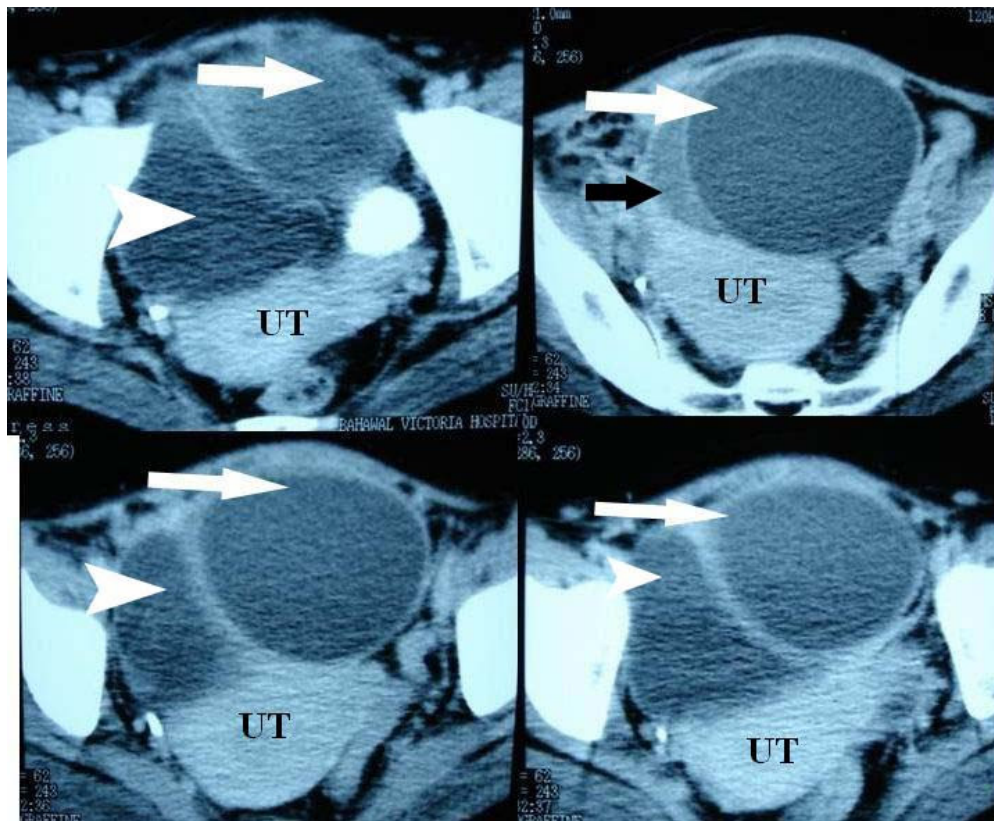
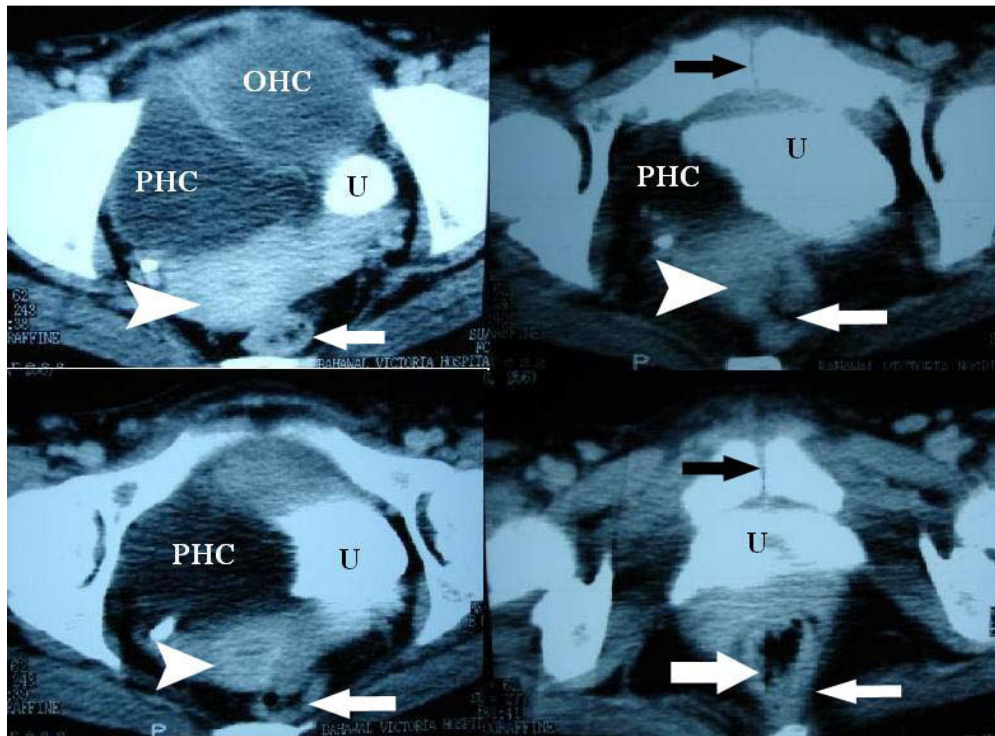
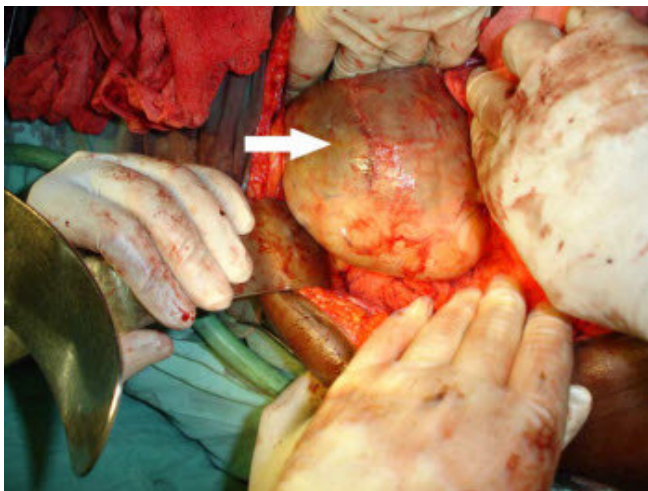


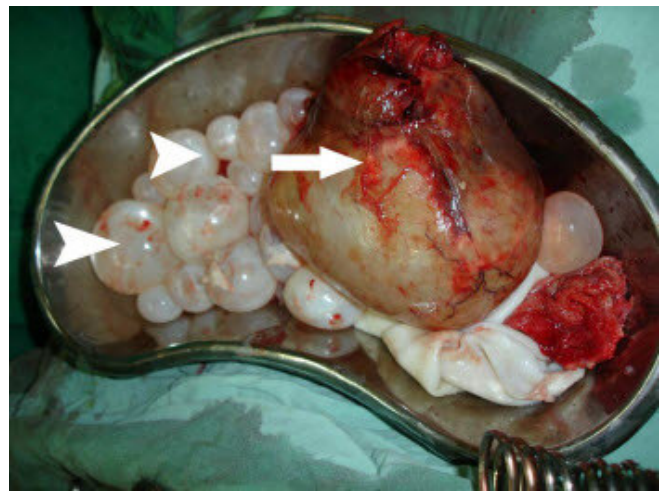
Figure 7: 65 year old female with diffuse abdominal hydatidosis. Axial contrast-enhanced CT image. White arrow= Ovarian hydatid cyst superior to the uterus (UT). Note thickened right lateral wall (black arrow), arrowhead =pelvic hydatid cyst, UT=Uterus



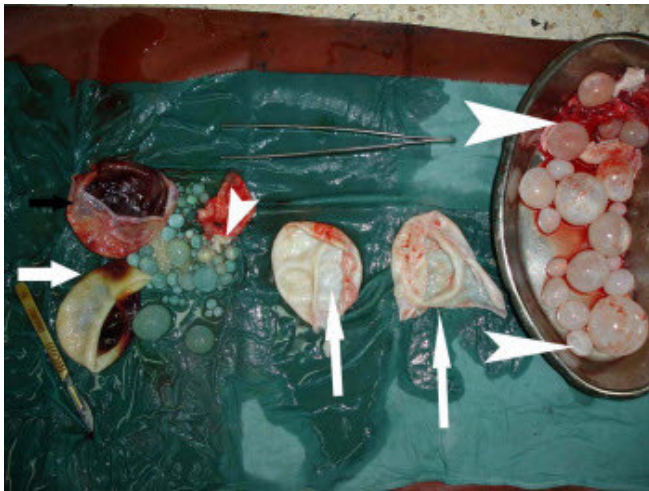
**Figure 8:** 65 year old female with diffuse abdominal hydatidosis. Axial contrast-enhanced CT image. U=Urinary bladder displaced inferiorly, OHC=ovarian hydatid cyst, PHC =pelvic hydatid cyst, Black Arrow=symphysis pubis, White arrowhead=Uterus, White arrow=rectum



**Figure 9:** 65 year old female with diffuse abdominal hydatidosis. Intraoperative removal of ovarian Hydatid Cyst (White Arrow).



**Figure 10:** 65 year old female with diffuse abdominal hydatidosis. Hydatid cysts of the ovary and abdominal wall removed. Arrowheads = Hydatid cysts of abdominal wall, Arrow = Ovarian hydatid cyst.



**Figure 11:** 65 year old female with diffuse abdominal hydatidosis. Hydatid cysts completely removed and displayed. Small Arrow = Hydatid cyst removed from ovary along with ovarian wall (black arrow). Small arrowhead = Daughter cysts removed from the pelvic hydatid cyst, Large white arrows =Hepatic Hydatid Cysts. Large arrowheads = Hydatid cysts of abdominal wall.

**KEYWORDS**

Abdominal hydatidosis, cystic, ovary, multiloculated, abdominal wall

**Online access**

This publication is online available at:  
[www.radiologycases.com/index.php/radiologycases/article/view/159](http://www.radiologycases.com/index.php/radiologycases/article/view/159)

**Interactivity**

This publication is available as an interactive article with scroll, window/level, magnify and more features.  
Available online at [www.RadiologyCases.com](http://www.RadiologyCases.com)

Published by EduRad



[www.EduRad.org](http://www.EduRad.org)