

## SPONTANEOUS RUPTURE OF A RETRO-VESICAL HYDATID CYST: A RARE PRESENTATION OF HYDATID DISEASE

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### INTRODUCTION

Hydatid disease (Hydatidosis, Echinococcosis) is a parasitic infection caused by the larval stage (protoscolex) of the tapeworm *Echinococcus granulosus* and rarely *Echinococcus alveolaris*. Although it occurs frequently in the liver and the lung, it can be located in all tissues and organs. Primary or secondary hydatid cysts may be found anywhere along the omentum, mesentery, peritoneal cavity, retroperitoneum, pelvis or pouch of Douglas in at least 2% of patients. The implantation of the hydatid larva is essentially hematogenous, however, secondary implantation of protoscolex in the pouch of Douglas caused by rupture of an intra-peritoneal cyst can also occur.<sup>1,2</sup>

Rupture of a hydatid cyst may be secondary to trauma or to an intense physical effort.<sup>3</sup> We report a case of retro-vesical hydatid cyst presenting as a pelvi-abdominal mass associated with acute urinary retention that spontaneously ruptured following an attack of cough.

### CASE REPORT

A 23-year-old male patient presented with acute urine retention and a supra-pubic abdominal mass. On bimanual examination, the mass was found to be cystic and to be located just above the prostate mimicking a full bladder. Immediate abdomino-pelvic ultrasound (U.S.) proved its cystic nature and demonstrated its location behind a full bladder with moderate hydronephrosis of the left kidney.

Flexible cysto-urethroscopy was done after a failed trial of fixation of an indwelling urethral catheter to relieve the acute retention. Urethroscopy revealed a free anterior urethra with indentation and anterior displacement of the posterior wall of the posterior urethra and the bladder base and a normal bladder.



Fig. 1: CT scan showing a cystic swelling between the bladder and the rectum

Intravenous pyelography (IVP) revealed an upward and forward displacement of the bladder due to a huge filling defect which on computed tomography (CT) scan was proven to be cystic with non-homogenous contents (+20 - +75 Hounsfield Units). It was located in the Douglas pouch above the prostate and in front of the rectum. Otherwise, the abdomen and pelvis showed irrelevant findings on CT scan with no further intra-abdominal cysts.

After a severe attack of cough, the patient developed an anaphylactic shock with disappearance of the abdomino-pelvic mass and abdominal rigidity accompanied by hypotension (blood pressure, 85/50 mmHg), tachycardia (weak pulse, 120 /min), sweating, severe flushing, and reddish blotches on the skin. Following resuscitation the blood pressure was maintained at 100/70, but the tachycardia and flushing persisted. Immediate exploration was undertaken through a midline transperitoneal incision, and a cyst with a thick pyogenic, partially ruptured membrane was found between the bladder and the rectum. Two additional small cysts were found in the mesentery of the small intestine. After an injection of formalin 2% the cyst was completely excised together with the two small cysts. The liver was free, and no other cysts were found. A peritoneal toilette was performed, and the wound was closed after placement of an intra-peritoneal drain.

The post-operative period was uneventful, and on the follow-up visits the patient was completely free of cysts.

Gross examination of the two excised cysts revealed an average diameter of 3 cm and 0.5 cm wall thickness; the outer surface of the cysts was rough, while the inner surface was smooth and filled with a creamy cheese-like material. Histopathology of the excised cysts revealed hydatid cysts with active germinal layers.

## DISCUSSION

Echinococcosis is the most widespread, serious human cestode infection in the world. Isolated retro-vesical hydatid cyst is rare and usually manifests after a long course as a hypogastric mass associated with compressive manifestations and voiding disorders.<sup>2,4,5</sup>

Rupture and the sequelae of rupture are more important than the mass effect of hydatid cysts, except in the brain where the mass effect by itself has severe consequences. Lewall described three types of ruptures: the contained rupture which is clinically silent, the rupture communicating with organs such as the urinary bladder and the gall bladder which may cause evacuation or infection of the cyst, and the direct intra-peritoneal rupture which may have the most serious clinical consequences including anaphylaxis, dissemination of hydatid disease (secondary hydatosis), bacterial infection of the pericyst cavity and sudden death.<sup>6</sup>

Although many ruptured hydatid cysts of a primary organ into the peritoneum have been reported (e.g. rupture of liver and spleen cysts in the peritoneum), only two cases of rupture of originally peritoneal hydatid cysts (pelvic peritoneum) can be found in the literature: One case report by Arousseau and Martinon<sup>7</sup> presents a patient with a large pelvic tumor compressing the bladder, the ureters and the recto-sigmoid junction. Its sudden rupture into the peritoneum led to an emergency operation and to the discovery of a hydatid cyst ruptured into the pouch of Douglas and a hepatic cyst. In the

second case report by Koyuncu et al.<sup>8</sup>, a 25-year-old male with a history of surgery for hydatid cyst of the liver four years earlier presented with rupture of a pelvic hydatid cyst due to blunt abdominal trauma.

To our knowledge, our case is the third case of spontaneous rupture of a primarily pelvic hydatid cyst reported in the literature. In the absence of a past history of hydatid disease, it is difficult to suspect the hydatid nature of a pelvic cyst causing urinary disorders before operation. Yet, hydatid disease should be considered in the differential diagnosis of unusual cystic swellings in the pelvis, particularly in patients who live in endemic areas.

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