






## A pelvic mass in a 10-year-old boy: a rare diagnosis

Emadoddin Moudi<sup>1</sup> , Hamidreza Kamalinia<sup>2\*</sup> , Sepehr Ramezani<sup>3</sup> , Abazar Akbarzadeh Pasha<sup>4</sup> , Omid Majidian<sup>2</sup> 

1. Clinical Research Development Unit of Shahid Beheshti Hospital, Babol University of Medical Sciences, Babol, Iran

2. Department of Urology, Babol University of Medical Sciences, Babol, Iran

3. School of Medicine, Babol University of Medical Sciences, Babol, Iran

4. Cellular and Molecular Biology Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran

\*Correspondence: Hamidreza Kamalinia, MD-MPH. Department of Urology, Babol University of Medical Sciences, Babol, Iran. Email: hrkamalinia@yahoo.com

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### Abstract

This article reports a pelvic hydatid cyst in a 10-year-old boy who initially presented with right flank pain. Computed tomography (CT) revealed a cystic lesion containing internal densities, which was found to be a hydatid cyst between the bladder and rectum during surgery. The lesion was excised and sent to a pathology laboratory for further examination.

### Highlights

#### What is current knowledge?

Pelvic organs are currently considered rare primary locations for hydatid cysts. As a result, urologic surgeons may find it challenging to diagnose and consider hydatid cysts as a potential differential diagnosis

#### What is new here?

This report presents a rare case of a pelvic mass in a 10-year-old boy diagnosed as a hydatid cyst. We believe that this case should prompt physicians to consider hydatid cysts as a potential diagnosis, especially in atypical locations

### Introduction

Hydatid cyst is a parasitic disease caused by *Echinococcus granulosus* with a worldwide distribution and is commonly reported in children (1). Dogs are the definitive host of this parasite. Humans can be infected as an intermediate host by consuming unwashed or raw vegetables and ingesting the parasite eggs. The parasite released from the egg reaches the host's body tissues through blood circulation and is localized there (2).

*Echinococcus* is commonly found within the liver (60%) but can happen anywhere in the body (3). The pelvic organs are seldom the primary location for cyst formation but rather a secondary location for ruptured liver cysts. Pelvic cysts may remain asymptomatic for long periods and may be found accidentally or due to their disturbance and compression symptoms (4). In this report, we narrate a case of pelvic cystic mass that turned out to be a hydatid cyst upon surgical exploration, which is an infrequent primary presentation.

### Case Report

A 10-year-old boy was admitted to the clinic with right flank pain. The flank pain has been present for the past two weeks. His family did not recall any previous pain episodes. Past medical history was unremarkable. Physical examination marked a palpable suprapubic mass. His preliminary laboratory tests' white blood cell count was 7700/ $\mu$ l, with a hemoglobin of 14 g/dl, platelet count of 334000/ $\mu$ l, creatinine level of 0.87 mg/dl, normal urine analysis, and normal liver function tests.

Ultrasonography examination revealed an 81x68 mm cystic lesion behind the pelvis and adjacent to the bladder. Renal ultrasonography reported right renal hydronephrosis.

Computed tomography (CT) revealed a cystic lesion located anterior to the sacrum, between the bladder and rectum. The cyst was dimensioned 108x80x60 mm with a relatively thick wall (4mm) that contained internal densities and fine calcification. Furthermore, right renal hydronephrosis and right ureteral dilatation due to the compressive effect of the lesion were reported. (Figures 1, 2).

After Paraclinical examinations, the patient underwent surgery with a diagnosis of a seminal vesicle cyst. However, the operation revealed that the lesion was a hydatid cyst (Figures 3, 4). The surgeon removed the hydatid cyst, and the lesion was sent for further pathological examination (Figures 5, 6).



Figure 1. Abdominal CT Scan: Coronal view

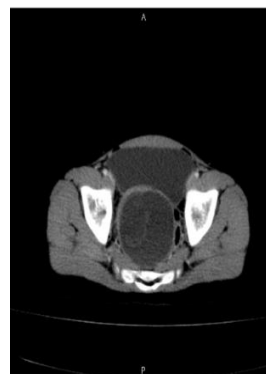


Figure 2. Abdominal CT-Scan with contrast: Cross-sectional view



Figure 3. Abdominal CT scan with contrast: Right kidney hydronephrosis



Figure 4. Gross laparotomy view of hydatid cyst



Figure 5. Cyst trans illumination



Figure 6. Hydatid cyst gross pathologic examination

## Discussion

A single cyst within the pelvis can be considered primary only when no other cysts are present within the common locales of the event. In such cases, the hydatid embryo gets to the pelvis either through hematogenous or lymphatic dissemination (5). Primary hydatid cysts within the pelvis are very uncommon. The incidence of such lesions is around 0.2 to 0.9 percent. Nearly 80% of all pelvic cases occur in the genital region. Rare cases of primary hydatid cysts have been reported in the pelvis. Most pelvic cysts occur due to the rupture of hydatid cysts in other body parts (6). Primary pelvic echinococcosis appears to be limited to the genital organs that are considered the primary location of inoculation via blood circulation (7, 8). In endemic countries, the crucial factor in diagnosing a hydatid cyst is the awareness of the possibility and clinical suspicion (9). Hydatid cysts should be considered in the differential diagnosis of pelvic masses, especially in children. Ultrasound and CT scans are helpful modalities in investigating any cystic masses or tumors of the pelvis (10).

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## Ethical statement

In the methodology section, we want to assure the readers that all ethical considerations were followed. This research received approval from the Babol University of Medical Science Ethical Council, and informed consent was obtained from the patient and their guardian.

## Conflict of interest

We affirm that there is no conflict of interest among the authors regarding the publication of this paper.

## Author contributions

Dr. Moudi, Dr. Kamalinia, Dr. Akbarzadeh Pasha, and Dr. Majidian played pivotal roles in data collection, patient information gathering, and diagnosing the medical case. Their expertise and insights were crucial to the success of this research, including performing the necessary surgery. Meanwhile, Dr. Ramezani took the lead in writing the essay, interpreting the findings to draw meaningful conclusions.

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