



## Case report

## Hydatid cyst of the ilium: A case report

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## ABSTRACT

**Introduction and importance:** Hydatid cyst is a common parasitic disease in endemic countries. It frequently occurs in the liver and lungs. Ilium involvement is extremely rare.

We report the case of a 47-year-old man presenting with a hydatid cyst of the left ilium.

**Case presentation:** A rural 47-year-old patient, presented with pelvic pain and limping on walking for six months. He had a pericystectomy 10 years prior for a hydatid cyst of the left liver.

A pelvic computed tomography scan showed an osteolytic remodeling of the left iliac wing associated with a large multiloculated cystic mass fusing along the left ilium. The patient had partial cystectomy and curettage of the ilium. The postoperative course was uneventful.

**Clinical discussion:** Hydatid cysts of the bone are exceptional but aggressive due to the absence of a pericyst limiting the extension of the lesions. We report a rare case of a patient presenting with a hydatid cyst of the ilium. The prognosis is poor even in patients who undergo extensive surgical treatment.

**Conclusion:** Early and adequate management can improve the prognosis. We highlight the importance of conservative treatment consisting of partial cystectomy with curettage of the bone to avoid morbidity related to radical surgery.

## 1. Introduction

Hydatid cyst (HC) is a common parasitic disease in endemic countries. The Middle East, Mediterranean, Central and Eastern Asia, East Africa, and South America are the most touched regions [1]. It frequently occurs in the liver and lungs. Rarely, it can appear in the brain, the skeletal muscle, the bones, the kidney, and the spleen [2]. Bone involvement is present in 0.5 to 2 % of all hydatid cysts sites. It is dominated by the vertebral site [3]. Ilium accounts for only 16–25 % of bone locations [4].

Despite the benign nature of the parasite, its occurrence in the ilium is challenging. Patients remain for a long time asymptomatic and consult after the bone invasion [5].

We report the case of a 47-year-old patient, presenting with a hydatid cyst of the ilium.

This work has been reported in line with the SCARE 2020 criteria [6].

## 2. Presentation of a case

A 47-year-old patient, from a rural area, presented with worsening pelvic pain and limping on walking. The patient's symptoms started six months ago.

The patient was diagnosed with a hydatid cyst of the liver 10 years prior. He had pericystectomy via a right subcostal incision.

The patient was afebrile. Abdominal examination showed tenderness in the left iliac fossa.

Laboratory studies revealed a white blood cell count of 6700 per microliter, C-reactive protein of 5 mg/dl, and hemoglobin of 13.2 g/dl. He had normal hepatic and renal functions. Hydatid cyst serology was positive using enzyme-linked immunosorbent assay (ELISA) test.

X-ray of the pelvis showed osteolysis of the left ilium (Fig. 1).

Pelvic computed tomography (CT) scan showed an osteolytic remodeling of the left iliac wing and a large multiloculated cystic mass of 10 cm fusing along the left iliac muscle (Fig. 2).

The patient was operated on via the left Leriche approach. We performed a partial cystectomy, evacuation of the contents of the cyst,

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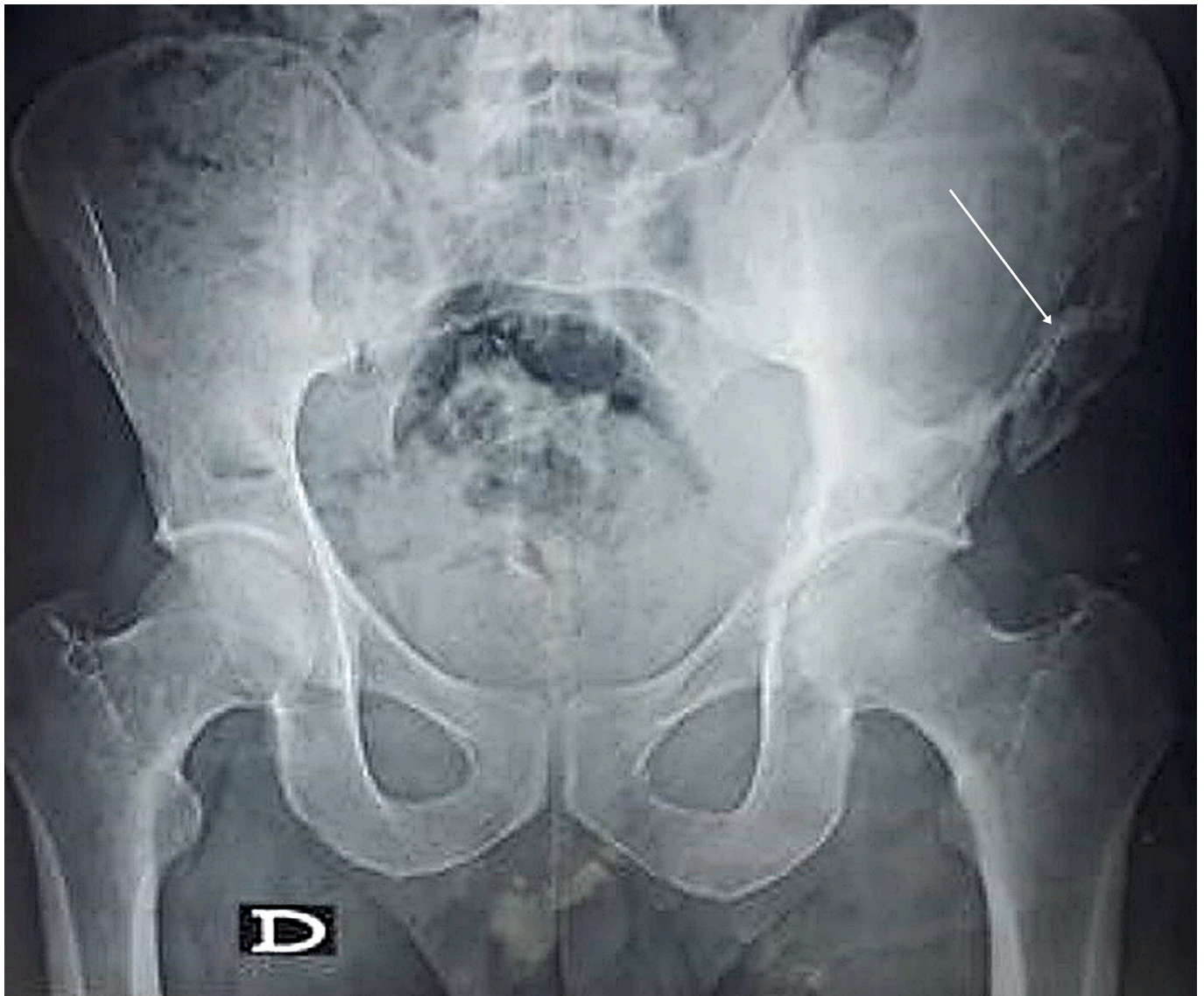


Fig. 1. X-ray of the pelvis showing osteolysis of the left ilium (white arrow).



**Fig. 2.** Pelvic computed tomography (CT) scan showing an osteolytic remodeling of the left iliac wing and a large multiloculated cystic mass fusing along the left iliacus muscle (white arrow).

which was gelatinous and drainage of the residual cavity. Then, we made a curettage of the iliac wing to evacuate the remaining daughter vesicles (Fig. 3).

The immediate postoperative course was uneventful and the patient was discharged home on the fifth postoperative day. Albendazole was given to the patient for four months with good tolerance. The 3-month follow-up did not show any recurrence. The patient had less pain when walking.

### 3. Discussion

We reported a rare case of hydatid cyst of the ilium successfully treated via partial cystectomy and curettage of the bone. The main strength of our work is the efficiency of the surgical procedure to diminish pain for the patient. The main weakness is the short follow-up period to detect disease recurrence and the reappearance of the initial symptoms.

Hydatid disease is caused by the parasite *Echinococcus granulosus* [7]. Cysts are found in the liver (55–60 %), lungs (30 %), kidneys (2.5 %), heart (2.5 %), bones (2 %, mostly in the spinal column), muscles (1 %), brain (0.5 %) and in other organs (1.5 %) [3].

Bone hydatid cyst is a rare condition that progresses very slowly. It usually occurs in vascularised areas. The vertebrae, ilium, long bones, skull, and ribs are the most affected bones. The lesions in the bone may mimic a tumor [8].

Pelvic involvement which occurs by the haematogenous route, concerns the iliac bone in 16.4 %. It has a poor functional prognosis because of its extension to the coxofemoral joint and more rarely to the sacrum [5].

The hydatid cyst of the bone is invasive and aggressive due to the absence of a pericyst limiting the extension of the lesions. Intra-osseous hydatid cysts exceptionally calcify [9].

The clinical signs of hydatid bone cysts are not specific and depend on the location of the cyst. The patients often show a discrete lameness on walking [10]. Occasionally, it may present with sciatica, foot drop, or with abdominal symptoms related to compression of the rectum and urinary tract [11,12].

The standard X-ray is usually the first performed imagery. It usually

shows poorly limited areolar lytic images of the areola, with the classic “honeycomb” appearance without any reaction or regional decalcification [5].

CT scans and magnetic resonance imaging (MRI) are accurate to specify the bone involvement, assess the locoregional extent, and for monitoring the course of the disease [13].

Pre-operative diagnosis is highly important since all precautions must be taken to prevent dissemination and seeding of the surgical field [14]. After a mistaken diagnosis, deaths due to anaphylactic shock resulting from spillage in the course of excision or biopsy have been reported [15].

The only curative treatment is surgery. It can be radical consisting of total cystectomy with hip replacement. It is indicated when the hydatid disease causes profound disabilities or mobilization problems. Though, it's characterized with high morbidity rates [16].

Conservative surgical treatment with partial cystectomy, bone curettage, and prolonged medial antiparasitic is a safer strategic treatment. It is preconized in patients with non-extensive lytic lesions. However, relapse rates remain high [8].

Microwave ablation can be a useful therapeutic alternative in the treatment of patients with hydatid bone cysts to prevent the disease recurrence [17].

### 4. Conclusion

The hydatid cyst of the bone is invasive and aggressive due to the absence of a pericyst limiting the extension of the lesions.

It destroys the bone, blows and ruptures the cortex, and extends into the adjacent soft tissue.

Conservative treatment is the best option in the absence of extensive lytic lesions of the bone to prevent the high morbidity rates of the radical treatment.

### CRedit authorship contribution statement

Kallel Y and Beji H contributed to manuscript writing and editing, and data collection. Chtourou MF and Zarg El Ayoune R contributed to data analysis.

Mighri MM and Touinsi H contributed to conceptualization and supervision. All authors have read and approved the final manuscript.

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### Ethical approval

Ethical approval is exempt/waived at our institution.

### Patient consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

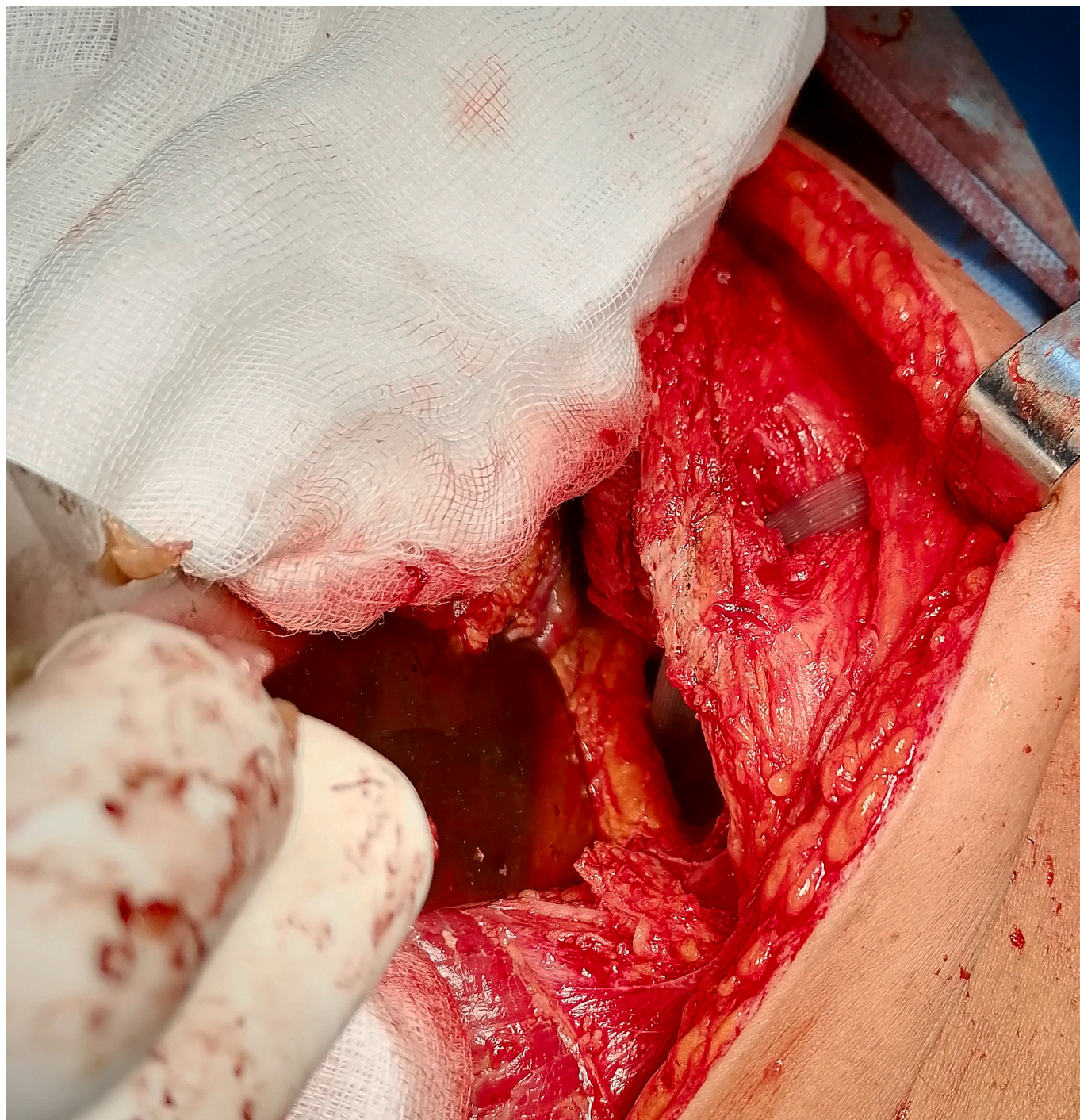
### Research registration

N/A.

### Provenance and peer review

Not commissioned, externally peer-reviewed.





**Fig. 3.** Intra operative view after partial cystectomy and bone curettage.

#### Guarantor

Dr. Hazem Beji

#### Declaration of competing interest

No conflicts of interest.

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