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Two Cases of Primary Reshaped Hydatid Cysts Mimicking Digestive Solid Cystic Masses

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Authors' contributions

This work was carried out in collaboration among all authors. Authors AB and TE surgeon in charge of patients, did data analysis and interpretation of the study. Author AL did data collection, data analysis and wrote the first draft of the manuscript. Author KJ wrote the paper, did data analysis and interpretation. Author MRL did data analysis and supervised the study. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Hydatidosis is a zoonotic parasitic infection that usually affects the lungs and liver but can occur in any organ. Peritoneal hydatidosis occurs in 5-16% of patients and can present with diverse clinical symptoms, often leading to misleading paraclinical exam results. Surgical intervention remains the primary treatment option, and prevention measures are implemented to protect susceptible populations. We present two cases of primary reshaped hydatid cysts mimicking digestive solid cystic masses, which were resected and found to be remodeled hydatid cysts on anatomopathological examination. The primary form of peritoneal hydatidosis is rare and can be

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confused with other cystic or pseudo-cystic masses of the peritoneum. Hydratic serology, while useful, is losing interest due to its delay in diagnosis, and surgery is the preferred therapeutic option. Recurrence is possible, making it necessary to implement preventive actions to interrupt the parasite's life cycle. Distant follow-up is necessary to monitor the patient's condition for up to 5 years.

Keywords: Hydatidosis; parasitosis; cyst; peritoneum; visceral surgery.

1. INTRODUCTION

Hydatid parasitosis is a severe pathology endemic in North Africa. Although the pulmonary and hepatic localizations represent 90% of the localizations, the hydatid cyst can affect any organ [1]. Hydatid cysts with peritoneal location are among the misleading cases. The clinical aspects of the hydatid cyst of the liver are very diverse. No clinical sign is pathognomonic. Abdominal ultrasound is the method of choice for the diagnosis of hepatic hydatidosis, CT scan is not essential for diagnosis, but it is indicated in case of diagnostic difficulties [2,3].

Its radical treatment is surgical and antiparasitic drug treatment prevents recurrences [4].

We report a new case of reshaped hydatid cyst mimicking a digestive solid cystic mass which seemed interesting to us to document.

2. CASE PRESENTATION

2.1 Case 1

A 25-year-old male , previously fit and healthy presented to our department with a 3 years history of paroxysmal heaviness like pain in the right hypochondrium and right flank, without notion of vomiting or signs of cholestasis, nor notion of contact with dogs or living in a rural environment, all evolving in a context of conservation of the general state. On examination he looked well and healthy (performance status 0), BMI at 25kg/m². Flexible abdomen with the presence of a firm mass straddling the right hypochondrium and the right flank measuring 6cm mobile with respect to the superficial plane. CT scan abdomen showed the presence of a solido-cystic mass on the right flank with a long axis of 61 mm which may be related to a digestive duplication with cellular debris within it, appendicular mucocele or peritoneal pseudomyxoma remain less likely, the liver is of normal volume, of homogeneous density and regular contours, absence of anomaly of the intra or extra hepatic bile ducts, the spleen and the pancreas are of normal CT appearance, the kidneys are of normal morphological and functional appearance, absence of deep adenopathy, absence of peritoneal effusion (Fig. 1,2). Blood investigations revealed negative tumor markers, a correct cholestasis check-up and a good prothrombin value (93.6%). The patient underwent open surgery, discovering a mass of the right hypochondrium adhering to the underside of the greater omentum, transverse colon and posterior parietal peritoneum, the appendix is macroscopically normal, se proceeded to the release of the mass then its resection after vascular control, no drainage was needed (Fig. 3). Pathological examination revealed a remodeled hydatid cyst. Postoperatively, follow-up care was unremarkable.

Patient was declared discharged after 3 postoperative days. At 1 year follow up, patient was without evidence of recurrence.

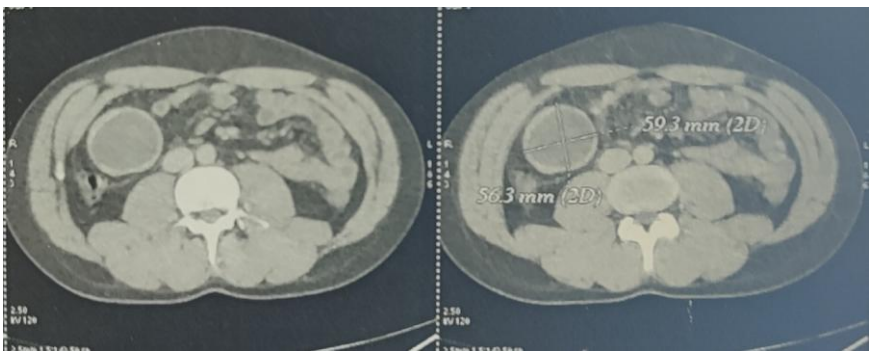

Fig. 1. Axial scan section showing the solido-cystic mass in the right flank

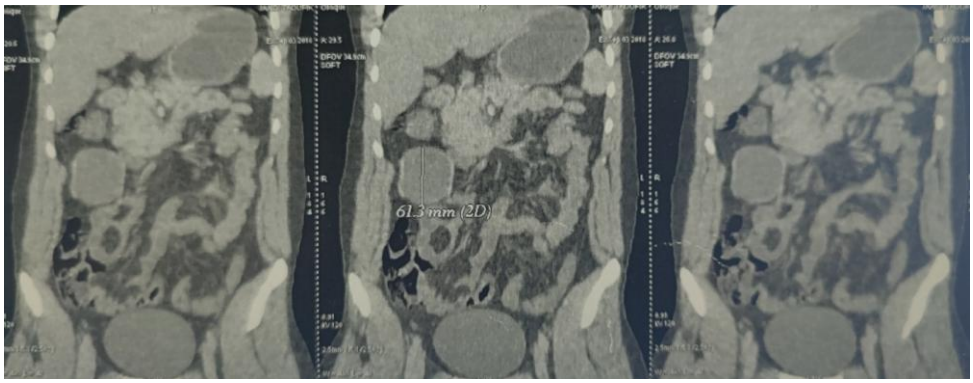

Fig. 2. Frontal scan section showing the solido-cystic mass in the right flank

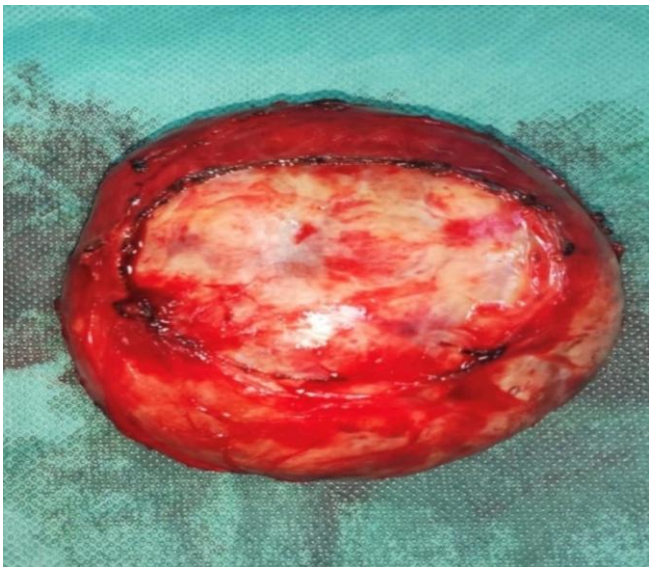

Fig. 3. Surgical specimen

2.2 Case 2

A 28-year-old male,working a shepherd and living a rural environment, previously fit and healthy presented to our department with a 1 year history of heaviness like pain in the epigastrium and in the umbilicus, without notion of vomiting or signs of cholestasis, all evolving in a context of conservation of the general state. On examination he looked well and healthy (performance status 0), BMI at 21.5 kg/m². Flexible abdomen with the presence of a firm mass straddling the epigastrium and the umbilicus measuring 8cm mobile with respect to the superficial plane. CT scan abdomen showed the presence of a periumbilical solido-cystic mass with a long axis of 75mm which may be related likely to a cystic mass of the peritoneum, the liver is of normal volume, of homogeneous density and regular contours, absence of anomaly of the intra or extra hepatic bile ducts, absence of deep adenopathy, absence of peritoneal effusion (Fig. 4). Blood investigations revealed negative tumor markers. The patient underwent open surgery, discovering a periumbilical cystic mass adhering to the underside of the greater omentum and transverse colon, the appendix is macroscopically normal, se proceeded to the release of the mass then its resection after vascular control, no drainage was needed (Fig. 5). Pathological examination revealed a remodeled hydatid cyst. Postoperatively, follow-up care was unremarkable.

Patient was declared discharged after 5 postoperative days. At 1 year follow up, patient was without evidence of recurrence.

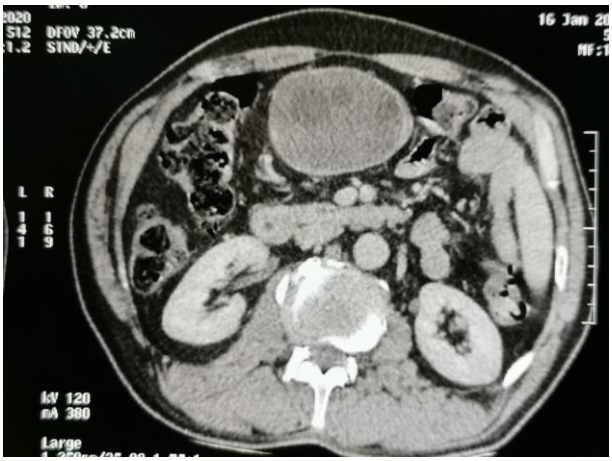

Fig. 4. Axial scan section showing the periumbilical solido-cystic mass

Fig. 5. Per operatory image

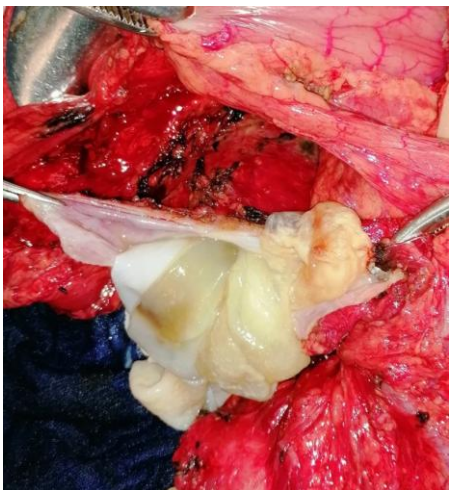

Fig. 6. Per operatory image

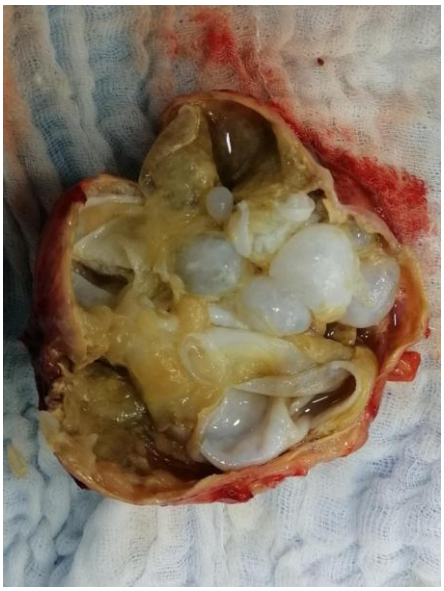

Fig. 7. Surgical specimen

3. DISCUSSION

Hydratic disease is common in North Africa, where it is endemic. It is located in any point of the body, as soon as the liver and lung filters are exceeded [1].

Peritoneal hydatidosis accounts for 5-16% of hydatidosis. It is almost always secondary to hepatic hydatidosis, acute rupture of hydatic cyst in the peritoneum is a rare complication, its frequency varies from 1 to 2%, according to the literature series [5,6].

However, the primary form is rare and is thought to be due to blood-forming damage by the arterial route, suggesting a rupture of the liver or lung filter by the parasite in order to gain access to the main blood traffic. This form can be retained only if the patient has no other hydatic localisation (liver, lung, splenic...) [5,6]. This was the case for our patients.

The clinical presentation was very polymorphic.

If in our case, the clinical presentation was dominated by paroxysmal heaviness like pain evolving for 3 years (case1) and 1 year(case2), in the series of El Mansari et al., having collected 12 cases of peritoneal hydatidosis, for two patients the condition was latent, the diagnosis was made for the first by an abdominal ultrasound, for the second, during the the surgical treatment of an umbilical hernia. For a third patient, painful symptomatology evolving for one month, wrapped up afterwards by a febrile occlusive syndrome. On examination, the abdomen was distended and very painful. He was a hydatic peritonitis secondary to a segment I hydatic cyst breakage.

In other patients, symptomatology was less noisy.

Indeed, the finding of abdominal mass is common, found clinically in our patient (94% for Moumen et al., 40% for Haddad et al., 50% for El Mansari et al.) [6,7-10].

Ultrasound is the essential examination. Diagnostic reliability is estimated at 96%.CT would allow for easy and more accurate diagnosis than ultrasound, especially in peritoneal localization. It has been very little evaluated in the literature. Jouini et al. emphasize his interest in a single case in the diagnosis of intraperitoneal breakage of a liver hydatic cyst. The MRI would provide diagnostic support in cases where cysts are not characteristic for ultrasound and scanning [8].

The advantages of CT over ultrasound are better identification of non-specific ultrasound aspects; easy study of all or part of calcified hydatic cysts; the determination of the exact size of the cyst and its relationship to neighboring organs; the detection of complications, in particular superinfection by the detection of intra-cystic gas in post-operative settings; the study of post-operative complications, especially in obese and

multioperated patients; the diagnosis of recidivism [11,12].

Differential diagnosis can be made with other cystic or pseudo-cystic masses of the peritoneum: tuberculosis, gelatinous disease, serous cyst and cystic lymphangioma [13,14].

Hydratic serology, one of the main complementary investigations in the diagnosis of hydatic cysts, is losing its interest due to its delay diagnosis in relation to the emergency of the therapeutic decision. However, its results confirm the diagnosis of hydatidosis retrospectively and serve as a monitoring tool [6].

Conventional surgery remains the best therapeutic option for the moment, if is reffered to as the GOLD STANDARD. Celiosurgery retains its specific indications.

The treatment of peritoneal hydatic cyst can be cystectomy, the technique performed for our patient, pericystectomy, pericystectomy and omentectomy whenever possible. The resection of the protruding dome is the technique of choice whenever the cyst is deep, in contact with the vicinity viscera or vessels. However, partial or subtotal cystectomy may be performed for avoid injury to neighboring organs and vessels [1,6].

On the other hand, the resection of the protruding dome exposes to dreadful post-operative complications, dominated mainly by a suppuration of the residual cavity (nine cases in the series by Moumen et al., three cases in the series of El Mansari et al.).

In addition, péritonéal hydatic cysts recurrences are common (39% in the series of Moumen and al.).
For our patients, there was no recurrence, but the number of patients is smaller and so is the retreat.
Medical treatment would be an useful adjuvant to surgical treatment. The efficacy of albendazole has been emphasized by some authors as a lone treatment or complementary to surgery, it would prevent secondary peritoneal echinococcosis [9].

In our study, our patients had not been treated by albendazole post-operatively.

Distant follow-up is based on clinical, serological and ultrasound checks every 3 months in the first year and every 6 months for the next 2 years. Finally every year until the 5th year. If, at that date, the paraclinical assessment remains negative, monitoring may be stopped [15]. In case of clinical, ultrasound and serological discrepancy, CT scan should be requested. This surveillance strategy is hampered by the non-cooperation of patients, who are often of modest socio-economic levels. We emphasize the importance of patient information and awareness and the value of long-term follow-up given the potential risk of recurrence

4. CONCLUSION

The primary localization of the hydatic cyst in the peritoneum is rare, its clinical symptomatology is confusing.

Preoperative diagnosis of peritoneal hydatidosis is sometimes difficult.

Diagnosis should be discussed in front of any process that takes place in the intra peritoneal area, especially in a country where the disease is endemic, after having eliminated a malignant origin. Surgery is the treatment of choice. Re-infestation is possible, the need for preventive actions aimed to interrupt the parasites life cycle through hygiene measures and veterinary control of slaughterings.

CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

ETHICAL APPROVAL

This case report is exempt from ethical approval at our institution.

REGISTRATION OF RESEARCH STUDIES

The datasets in this article are available in the repository of the general surgery database, CHU Ibn Rochd, upon request, from the corresponding author.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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