Isolated Hydatid Cysts of Spleen: 3 Cases Report and Literature Review

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ABSTRACT

We report three cases of isolated splenic hydatid cysts managed at teaching hospital in Nouakchott (Mauitania). Splenic involvement is very rare (less than 5% of echinococcal cases). The patients (22, 32 and 39 years old) presented with left upper quadrant pain or abdominal distension. Ultrasound and CT imaging revealed typical hydatid cysts in the spleen. All cases underwent surgical treatment by partial or total splenectomy (laparoscopic or open) and received albendazole therapy. Follow-up was uneventful with no recurrence. These cases highlight the importance of considering a hydatid cyst in any splenic mass, to ensure appropriate diagnosis and management

Keywords: *Echinococcosis, Spleen, Hydatid Cyst, Splenectomy*

Introduction

Cystic echinococcosis is a parasitic disease caused by Echinococcus granulosis. Hydatid cyst is a parasitic infection that is endemic in many Mediterranean countries but rare in sub-Saharan countries including Mauritania. The most affected organs are the liver and lung. The spleen is rarely affected (0.9-8%) (15). We report three cases of isolated splenic hydatid cysts managed at Nouakchott Military Teaching Hospital. The liver (about 70%) and lungs (about 25%) are the most involved organs, whereas the spleen is affected in only 0.5–8% of cases in various series. Therefore, isolated splenic hydatid cysts are very uncommon. In clinical practice, the diagnosis is sometimes challenging when there are no concomitant liver or lung lesions. We report here three cases of isolated splenic hydatid cysts managed in our teaching hospital, and we discuss the diagnostic and therapeutic considerations for this rare condition.

Observation 1:

Twenty-five years old women, had undergone a tonsillectomy 5 years previously. She presented with paroxysmal abdominal pain of moderate intensity and torsion. On examination, she was in good general condition and her vital signs were stable (T°37.8, BP:13/8 and heart rate 85). Abdominal examination revealed splenomegaly with slight tenderness of the left hypochondrium. Abdominal ultrasound revealed a cystic mass of the spleen. Abdominal CT scan revealed a large hydatid cyst of the spleen (Fig 1) with compression of the left kidney.

Pre-treatment work-up; CBC showed WBC:10800, HB:13.5, PLT:232000. Hydatid serology (Elisa reaction) was positive. the patient was operated on under general anaesthetic, the approach being a left sub-costal laparotomy. Surgical exploration revealed a large cyst on the lower polar spleen, sparing half of the spleen. The protruding dome was resected (Fig 2), and the cavity sterilised with hydrogen peroxide and drained. The post-operative course was straightforward and the patient was discharged on postoperative day 5 with Albendazol-based treatment.

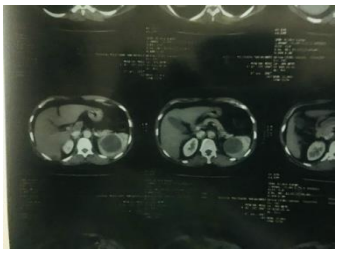

Figure 1: large hydatid cyst of the spleen (Obs.1)

Figure 2: Dome resection (Obs.1)

Observation 2:

The patient was 32 years old men, with no previous pathological history and was presented with abdominal pain localized in the left hypochondrium and then generalized to the entire abdomen with no transit disorders. the clinical examination revealed a fairly good general condition, normocoloured mucous membranes, a temperature of 37.8 blood pressure at 13/9 and a heart rate of 88 b/min. Abdominal examination revealed a supple abdomen with no palpable mass. Blood tests showed leukocytosis at 9800, Hb at 12.5 and platelets at 232500. A left subcutaneous laparotomy revealed splenoparietal adhesions and a spleen cyst. We proceeded with a peri cystectomy as shown in Fig 3, sterilisation of the cavity with oxygenated water and drainage.

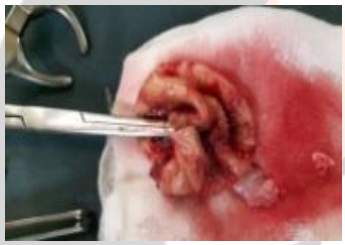

Figure 3: Hydatid Cystectomy (Obs. 2)

The postoperative course was straightforward. the patient was placed on exeat on the 6th postoperative day with Albendazole-based treatment. the patient was seen at 3 months and then at 1 year with no sign of recurrence.

Observation 3:

39 years old women with no particular pathological history, consulted for abdominal pain that had been evolving for 3 weeks with no transit disorders. Abdominal ultrasound revealed a multilocular splenic mass compatible with a Gharbi type III splenic hydatid cyst. The abdominal CT scan confirmed the diagnosis of a hydatid cyst of the spleen. The blood count showed a leukocytosis of 4500, Hb of 13.5 and platelets of 262500. Our patient underwent surgical exploration, which revealed an inferior polar splenic hydatid cyst sparing more than half of the parenchyma. The post-operative course was marked by the persistence of a pericystic collection treated by antibiotic therapy with a favourable outcome. The patient was discharged at 12 days post-operatively with Albendazol-based treatment and was seen again at 2 months and then at one year with no signs of local recurrence.

Discussion

Hydatidosis is a helminthiasis caused by the development in humans of the larval form of Echinococcus granulosus. The definitive host is most often the dog [1]. The intermediate host, contaminated via the digestive tract, is most often sheep and, accidentally, humans [1]. The embryo then crosses the intestinal wall, reaches the liver via the portal tract, localises there or reaches the lungs via the vena cava, then any other organ via the systemic circulation. Hydatid Cyst (HC) is therefore most often found in the liver and then in the lungs [1,19]. Splenic localization comes in 3rd position with a frequency of 0.9 to 8% of all localizations, and 0.4% of abdominal localizations [9,10]. This lower incidence may be explained by the mechanism of splenic involvement by Echinococcus granulosus. In fact, other routes of splenic involvement have been suggested: involvement by contiguity (gastric or colonic trans-parietal), the lymphatic route and the retrograde porto-splenic venous route [1,18]. This is a rare condition outside

endemic areas, and we report the first cases observed in this country where all patients had isolated splenic hydatid cysts, whereas in 20 to 62.5% of cases were associated with other hydatid localisations, in particular hepatic or peritoneal [17,18]. The search for other localisations must be systematic, not only to determine the prognosis [2,5,9] but also to choose the surgical approach. In this study, mean age was 32 years, with a predominance of females (67%), which is in line with the literature [10,18]. The clinical manifestations of spleen hydatid cyst (SHC) are discreet and non-specific [4,11]. The most frequent reasons for consultation are pain, the finding of a mass in the left hypochondrium and chance discovery [1,19,20]. our patients had abdominal pain and 2/3 had a palpable mass. Splenic HC can also be discovered during complications such as abscessation, fissuring with anaphylaxis and rupture in the pleura, stomach, colon or skin [1,18,20]. ultrasound, CT and magnetic resonance imaging of the abdomen are the most useful examinations for diagnosis, showing cystic calcifications, daughter vesicles or intracystic septa [1,7,18]. Combined with hydatid serology, these imaging studies allow diagnostic confirmation of splenic hydatid cyst [16,18]. Ultrasound combined with abdominal CT showed a cystic lesion in the lower polar region in 2/3 of patients, sometimes with the presence of vesicles; hydatid serology was positive in all patients, thus confirming the diagnosis of SHC. However, diagnostic difficulties may arise with non-parasitic cysts of the spleen due to their similar clinical and radiological presentation. Imidazole-based medical treatment is prescribed before surgery to reduce the size of the cysts and sterilise the contents, thus avoiding the risk of secondary dissemination [11,14], and postoperatively to act on small cysts that have gone unnoticed [11,14]. All our patients received medical treatment postoperatively. Surgery is the mainstay of SHC treatment, which must respond to immunological imperatives by attempting to preserve the spleen whenever possible, and to parasitic imperatives by treating the cyst [9, 12]. The choice of approach depends both on the location of the splenic cyst(s) and on whether it is associated with other cystic locations in the liver, peritoneum or elsewhere, not forgetting type of cyst and the existence of any complications. A low-pressure laparoscopic approach is feasible in almost all cases, with good short- and long-term results [8,12,18]. Splenectomy has the advantage of removing the parasitic organ and avoiding recurrence [5,13,19]. Postoperative mortality after splenectomy for SHC is 3.8 to 7% [9, 13], with morbidity ranging from 15.3 to 21% [5] or even 37.5% [2]. In addition, the long-term consequences of this procedure are more difficult to manage. We opted for conservative treatment, and performed resection of the protruding dome in two patients and peri cystectomy. The advantages of conservative treatment are its simplicity, rapidity of execution, preservation of surrounding structures adherent to the spleen, and above all preservation of the spleen's immune function [2,9]. Our choice of conservative treatment is appreciated by various teams [2,12,15]. The fundamental element of this RDS and sterilisation technique is the scilicide used to sterilise the cyst contents and soak the wicks that isolate it. Several chemical agents are used, but the most common are hydrogen peroxide [2,6] and cetrimide [3,12]. We chose hydrogen peroxide because of its low cost and low toxicity compared with cetrimide, which is responsible for peritoneal irritation and methaemoglobinaemia. In our practice, there is no mortality, but we have noted a residual abscess in one patient, and morbidity in the literature varies from 0 to 16% [2, 15]. The problem of recurrence is difficult to define. It is difficult to distinguish between true recurrence and reinfestation. In 3 series [2,3,15], the rate of recurrence after conservative treatment of KHR was nil. This is consistent with our results, in which no recurrence was noted after a follow-up of 10 to 14 months. For this reason, we believe that splenic conservation is the best option and should be the objective of any treatment of SHC

CONCLUSION

SHC is a rare condition in our region, and treatment is essentially surgical. the treatment must meet immunological requirements by attempting to preserve the spleen whenever possible, and parasitic requirements by treating the cyst. resection of the protruding dome after sterilisation and evacuation of the contents must be the method of choice. splenectomy should only be performed in special situations

CONFLICTS OF INTEREST

None.

AUTHORS CONTRIBUTION:

All authors have reviewed and approved the final manuscript.

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