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*RESEARCH ARTICLE*

# SPLENIC HYDATID CYST DISEASE: 15 CASES.

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*Abstract*

Hydatid cyst disease is endemic in our country. The splenic involvement comes at the third rank following the liver and the lungs. 15 cases were evaluated, retrospectively, between 2002 and 2013. The gender distribution was 73% Females and 27% males. The mean age is 48 years. The pain was a frequent reason for consultation (40%). Splenomegaly was found in 46,7% of patients. The diagnosis is established by Ultrasound scan and computed tomography scan. The splenic hydatid cyst was solitary in 6 cases. Surgical treatment was performed in all cases. Deroofing was the most common method in 53%of cases, and total splenectomy in 47% of cases. The results were good with no mortality and morbidity consisting of one sub-phrenic abscess that required external drainage.



## Introduction:-

Hydatid cyst disease is an important health problem in our country. It is endemic in many regions of the world (Middle East, Mediterranean region). It is caused by ecchynococcus granulosus. It is most frequently involves the liver, the lung. The splenic involvement come at the third rank [1]. Other localizations have been reported.

The splenic involvement may be solitary or accompany other organ involvement, commonly the liver.
The treatment options (medical, percutaneous drainage, surgical) of splenic involvement are still controversial.
The aim of our retrospective study is to specify the epidemiological, clinical aspects and the efficacy of treatment.

## Material and Method:-

It is a retrospective study at the Ibn Toufail Hospital, CHU MOHAMED VI MARRAKECH, DEPARTEMENT OF GENERAL SURGERY, between 2002 and 2013.

15 patients have been treated surgically in our center are reviewed. Demographic data, symptoms, clinical findings, radiological findings, intraoperative findings, surgical interventions, postoperative course, complications, length of hospital stay, and mortality were recorded.

**Findings:-**

Between 2002 and 2013, 15 cases have been reported. The gender distribution was 73% Females and 27% males. The mean age is 48 years (32-60 years). 60% are from rural regions. The history of contact with dogs existed in 53%. 2 patients have been already operated for hepatic hydatid cyst. The time between onset of symptoms and the hospitalization was 2 months to 2 years with an average of 8 months. The pain was a frequent reason for consultation (40%). A mass of the left hypochondrium revealed 20 % of cases. The other cases were found

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incidentaly. On physical examination splenomegaly was found in 46,7% of patients, hepatomegaly in 3 cases, tenderness of the left hypochondrium in 20%, umbilical mass in 2 cases. Serological tests performed in 40 % of patients were positive. Eosinophilia was found in 4 cases. Ultrasonography was performed in all cases, confirmed the cystic nature and location of the splenic tumor (fig. 1,2).the cysts were unique in all cases. The abdominal CT scan was performed in 7 cases to explore the neighborhood and extensions of the cysts (fig.3). Ultimately, the splenic hydatid cyst was solitary in 6 cases, associated in 6 cases with hepatic hydatid, and associated in 3 cases with peritoneal location. Surgical treatment was performed in all cases. Deroofing was the most common method in 53%of cases, and total splenectomy in 47% of cases (fig. 4). The length of stay varied from 6 to 14 days. Postoperative course was regular without mortality and morbidity except 1 patient who developed sub-phrenic abscess that required external drainage.

## Discussion:-

The splenic hydatid cyst comes at the third frequent site after the liver and the lung. It is rare condition with rate of 2,5 - 5,8%[1,2]. In our study only 15 cases were observed on 12 years. Almost studies noted a female predominance [3,4,5]. Also, in our study, 73% of cases were female.

In splenic hydatid cyst, the clinic presentation is usually asymptomatic [2,6]. Although, it can be revealed by some symptoms which are soft and no specific. The most frequent sign is pain at the left hypochondrium, followed by an accidently discovered mass at the same area or less frequently epigatric[2,6]. There can be dyspepsia, dyspnea, and constipation. However up to 30 % of cases are incidental finding during radiological investigations [2,6]. In our study, pain was present in 40% of cases; abdominal mass in 20% of cases; incidental finding in 40% of cases. On physical examination, splenomegaly was found in 35% - 83% of cases [7]. In our study, 46,7 % of patients present splenomegaly.

Some serological tests such as immunoelectrophresis (sensitivity of 90-95%), indirect hemmaglutination test (sensitivity of 85%), ELISA, can lead to a successful diagnosis when combined with imaging [8]. However, false positive and false negative serological test results have been reported [9,10]. In our study, 6 patients have made indirect hemmaglutination test. The results were positive in all cases. Moreover, serological tests in our endemic region are used only in controversial situations.

Plain radiograph may demonstrate a marginal calcification in the splenic area, an elevated left hemi-diaphragm, displacement of stomach and left colonic flexure [11]. In our study, elevated left hemi-diaphragm was found in 26,6 % of cases.

At present, ultrasonography and abdominal CT scan are the most valuable imaging techniques for the diagnosis and evaluation of focal splenic diseases, including hydatid cyst [12]. Ultrasound have a sensitivity of approximately 90-95 % [13]. CT scan values reach the rates of 95- 100% [13]. Splenic hydatidosis may have different appearances related to location of the cyst, the age, the number and associated complications [14]. Once the diagnosis is made, systemic examination should be performed looking for other organs involvement [15]. In our study, ultrasonography was made for all patients. It was sufficient for the diagnosis of splenic hydatid cyst, identifying the localization, the type, the number and other organs involvement. CT scan was made in 7 cases, especially to clarify the neighborhood and the extension of the cysts.

The standard treatment for hydatid cyst disease remains surgery (open or laparoscopic) [16]. Chemotherapy seems to be interesting when the cysts are multiple, or have multiple initial locations, or recurrent in multiple organs especially in the peritoneum [17]. Albendazole is significantly more effective than Mebendazole [18]. It preferred at an average daily dosage of 15mg/kg/jour, continuously [17]. Blood count and transaminases must be checked every week for the first month and every month thereafter [17]. Pre-surgery treatment with Albendazole may facilitate a complete removal of the germinal layer [19]. Ideally, preoperative prophylaxis should be started 1 month prior to surgery or at least 4 days before surgery according to WHO guidelines [20]. It stabilizes cysts, decreases tension inside the cyst, decrease anaphylaxis and recurrence. Patients who undergo PAIR typically take Albendazole or Mebendazole from 7 days before the procedure until 28 days after the procedure [21]. In our study, pre-surgery medication have not been used. Only 5 patients have taken Albendazole after surgery.

Percutaneous aspiration irrigation and reaspiration (PAIR) is the only method that is diagnostic and therapeutic. PAIR is used for patients which are inoperable. Long-term results indicate that percutaneous treatment modality of

splenic hydatidosis can be an effective and a safe method and causes no major complications (especially for simple and small cysts) [22]. In our study, no patient have underwent this technique.

Generally, in surgical management of hydatid cyst most of authors prefer spleen preserving surgery like partial splenectomy, cyst enucleation, deroofing of cyst with omentoplasty. They avoid major complications of total splectomy such as hemorrhage, pancreatitis, gastric injuries, overwhelming post splenectomy infection (OPSI), mortality (3,8 – 7 %) [23,24]. Moreover, some studies showed that recurrence rate after total splenectomy do not differ significantly from spleen preserving surgery, and complication rates are also comparable [24,25]. However, under especial situations like polycystic cases, large/giant cyst, hilar cyst, cyst with fully parenchymal coverage, uncontrollable massive bleeding and inaccessible cysts, total splenectomy seems to be imperative [26]. In our study, total splenectomy was performed in 47% of cases; deroofing in 53% of cases.

Laparoscopic surgery seems to be easy to apply, safe, and effective with similar results compared to open surgery [27]. It is recommended for unique, small-sized, superficially located cysts [27].

## Conclusion:-

Generally, the diagnosis of splenic hydatidosis, in endemic areas, seems simplistic. Nevertheless, the management is still controversial. Although, conservative methods are preferred to avoid severe complications subsequent of total splenectomy. Medical treatment before and after surgery should be considered to prevent recurrences which are the major problem of hydatid disease.

**Figure 1:-** Ultrasonography shows splenic hydatid cyst (unilocular anechoic cystic lesion)

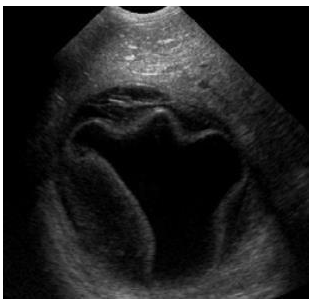

**Figure 2:-** Ultrasonography shows splenic hydatid cyst (unilocular cyst with daughter cysts with detached laminated membranes)

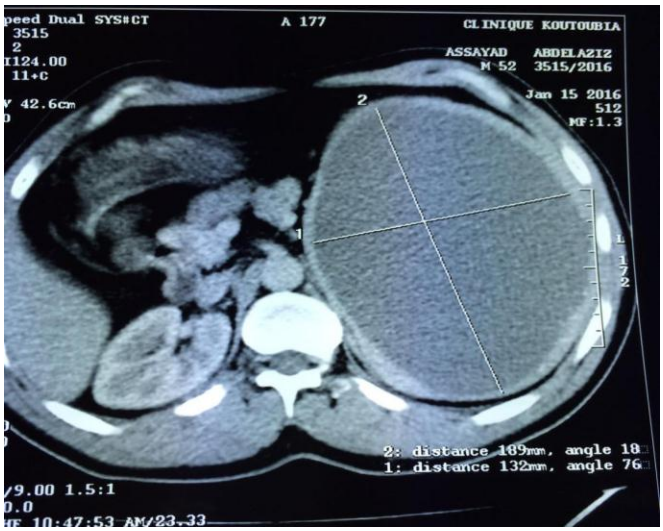


**Figure 3:-** Computed tomography shows splenic hydatid cyst.

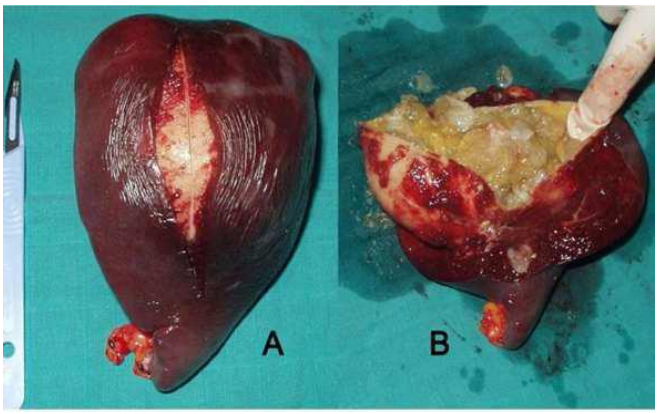


**Figure 4:-**

A- Removed specimen of spleen showing the large intact cyst
B- after opening the cyst : multivesicular infected cyst

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