

Primary Splenic Hydatid: A Case Report

S.I. Gul, M. Sheikh, T.S. Khan, M. Mushtaq, F. Reshi.

Address??????/

Hydatid disease is a parasitic infection caused mainly by *Echinococcus granulosus* and is a common entity in this part of the world . However, primary hydatid disease of spleen is a rare entity. We are reporting a case of a massive primary splenic hydatid cyst in a 27 yr old female, who presented with left upper quadrant swelling and pain. USG disclosed a large hydatid cyst and the CT scan confirmed the diagnosis. IgM Elisa for hydatid serology was strongly positive . An elective open splenectomy was performed, with an uneventful post operative recovery.

Introduction

A hydatid cyst is a zoonotic illness and a significant problem in endemic areas. Hydatid cyst is caused by echinococcus infestation. Humans are the accidental intermediate hosts. After ingestion, the eggs hatch and oncospheres penetrate the intestinal mucosa and enter the circulation. The embryos are carried to the liver to be arrested in the sinusoidal capillaries (liver acts as first filter). Some of the embryos may pass through the hepatic capillaries and enter the pulmonary circulation and filter out in the lungs (lungs act as second filter). Rarely a few embryos may pass through the pulmonary capillaries, enter the general blood stream, and lodge in various organs. Wherever the embryo settles, it forms a hydatid cyst. The life span of larval worm is considerable and it may continue to develop for many years¹. Liver and lungs are the organs most commonly affected by this disease as evident by the life cycle of the parasite. Primary infestation of the spleen by the parasite is a rare phenomenon.

Case Report

A 27 yr old tribal married female (G2 P2 A0) from a remote hamlet from south Kashmir , with no significant past medical history presented with a history of progressively increasing upper abdominal swelling for the last 6 months. There was also a 4-weeks duration of pain in the right upper abdomen. General physical examination of patient was normal. Abdominal examination revealed moderate splenomegaly. The haemogram and routine serum chemistry were normal. Abdominal Ultrasonography disclosed a large hydatid cyst measuring 152mm x 135mm x 141mm wit a volume of 1514c.c); with intra cystic rupture seen towards upper pole of spleen (Figure 1). The CT scan confirmed the presence of a large isolated splenic hydatid cyst with no cyst in the liver, lungs or kidney (Figure 2). IgM Elisa for hydatid was strongly positive.



Figure 1.



Figure 2.



Figure 3.

Preoperative albendazole therapy (15mg/kg bwt) was started. Splenectomy was done by left upper transverse incision. There were dense omental adhesions over spleen with perisplenic adhesions with surrounding viscera. After careful adhesiolysis, splenectomy was performed and a large sized spleen (20cm x 15cm) was delivered (Figure 3). Postoperative stay in the hospital was uneventful and the patient was discharged of 8th postoperative day.

Discussion

Hydatidosis or Echinococcosis, which is caused by *E.granulosus* has diverse presentations and has been reported since ancient times. Berlott (1790) was the first to describe splenic hydatidosis as an autopsy finding².

It is endemic in sheep rearing areas of Mediterranean, Eastern Europe, Australia, South America and Middle East. Most common organs involved are liver and lungs. Involvement of the spleen is a rarity even in endemic areas with an incidence of 0.5-4% of all cases of hydatidosis^{3,4,5}. The incidence varies widely in sheep rearing countries with maximum reported from Iran(4%)⁶. In India maximum incidence of splenic hydatidosis has been reported from Nagpur in Central India⁵. In various series on splenic hydatidosis from our state an incidence of 3.5 % and 4.1% has been reported^{7,8}.

Parasitic cysts of the spleen are almost exclusively hydatid cysts. In endemic areas, 50%-80% of splenic cysts are echinococci⁹.

Splenic hydatid cysts are generally asymptomatic and they are diagnosed incidentally while evaluating such patients for other reasons. When the cyst attains a considerable size the patient becomes symptomatic and mostly presents with painful left upper abdominal mass^{9,10}, as was the presentation with our patient. If the cyst gets infected patient may present with fever and leukocytosis¹¹. Sometimes the patient may also present with fatal anaphylactic reaction due to the free intra peritoneal rupture of the cyst¹⁰. Due to the constant risk of this latter dreadful complication, there is an absolute indication of splenic hydatid cysts, especially large ones, to be treated surgically^{10,12,13}. The standard treatment option is Total or Partial splenectomy⁶. In our case we preferred open total splenectomy. The literature also favours such treatment modality because of the following reasons :

- 1) In large cysts splenic parenchyma is significantly reduced due to pressure atrophy.
- 2) The thickened fibrous membrane as seen in hepatic hydatid cysts is quite thin and fragile in splenic hydatid cysts ,so the risk of intra op rupture is high in splenic cysts if a conservative approach is adopted during surgery¹⁵.

Complications of splenectomy such as hemorrhage, pancreatic or gastric injuries, thromboembolic phenomena and overwhelming postsplenectomy infections (OPSI) are reviewed in literature^{10,16,17}. None of such complications occurred in our patient.

Due to the risk of OPSI(approx 10%) some authors advocate conservative approach to be adopted in splenic surgery. However it is suggested that spleen sparing surgery can be done, if there is adequate amount of splenic parenchyma remaining and if the cyst is small and located peripherally¹⁵. Both these factors were absent in our case. With the advance in laparoscopic surgery, laparoscopic splenectomy is being increasingly performed at advanced laparoscopic centers. Though some authors find it safe and effective alternative to open splenectomy¹⁸, while as others believe that it is unsafe, to approach splenic hydatid laparoscopically, due to the risk of anaphylactic shock and intraperitoneal dissemination, which can occur subsequent to uncontrolled puncturing of the cyst^{10,16,18,19}.

To conclude, in endemic regions, in cystic lesions of spleen, a primary diagnosis of splenic hydatidosis must be made, unless proved otherwise. Moreover, because of the above risks, we advocate open splenectomy as the ideal procedure for massive splenic hydatidosis.

References

1. Chatterjee K.D, Parasitology, protozoology, and helminthology, 12th Edition 1980, pg-122
2. Muro J, Ortiz-Vazquez J, Mino G, Sanmartin P. Demonstration angiografica del quiste hidatidico de bazo. Rev Clin Esp 1969; 115 : 433-38.
3. Golematis B, Delikaris P. Treatment of echinococcal cyst. In Mastery of Surgery. Boston, Massachusetts: little brown, 1984; 633-41.
4. Humphreys WG, Jhonston GW. Splenic cysts : a review of six cases. Br J Surg 1979; 66 : 407-8.
5. Manouras AJ, Nikolaou CC, Katergiannakis VA, Apotolidis NS, Golematis BC. Spleen-sparing surgical treatment for echinococcosis of the spleen. Br J Surg 1997; 84 : 1162.
6. Torbati M. Hydatid diseases of the spleen, Report of an unusual case. Brit J Surg 1972; 59 : 489-91
7. Manzoor Ahmad Dar, Omar Javed Shah, Nazir Ahmad Wani, Fayaz Ahmad Khan Surgical Management of Splenic Hydatidosis Surgery Today, Volume 32, Number 3 / March, 2002 Pages 224-229
8. Wani NA. Hydatid Disease of the spleen. Ind J Surg 1993; 55 (3) : 155-60.
9. Uriarte C: Splenic hydatidosis. Am J Trop Med Hyg 1991;44:420-4239.
10. Ratych RE: Tumors, cysts and abscesses of the spleen; in Cameron JL (ed): Current Surgical Therapy, ed 4. St. Louis, Mosby, 1992, pp 518-521.

11. Franquet T, Cozcolluela R, Montes M, Sanchez J: Abscessed splenic hydatid cyst: Sonographic and CT findings. *Clin Imaging* 1991;15:118–120.
12. Muro J, Ortiz-Vazquez J, Mino G, Sanmartin P. Demonstration angiografica del quiste hidatidico de bazo. *Rev Clin Esp* 1969; 115 : 433-38.
13. Wolf O, Lenner V: Cystische Echinokokkose der Milz. *Chirurg* 1998;69:208–211.
14. Gharaibeh KI: Laparoscopic excision of splenic hydatid cyst. *Postgrad Med J* 2001;77:195–196.
15. Vedat Durgun, Selin Kapan, Metin Kapan, Ilhan Karabiçak Fatih Primary Splenic Hydatidosis , *Dig Surg* 2003;20:38–41
16. Beauchamp RD, Holzman MD, Fabian TC:Spleen; in Townsend CM Jr (ed): *SabistonTextbook of Surgery*, ed 16. Philadelphia,Saunders, 2001, pp 1144–1165.
17. Ellison EC, Fabri PJ: Complications of splenectomy:Etiology, prevention and management.*Surg Clin North Am* 1983;63:1313.
18. Khoury G, Abiad F, Geagea T, Nabout G, Jabbour S: Laparoscopic treatment of hydatid cysts of the liver and spleen. *Surg Endosc* 2000; 14:243–245.
19. Ammann RW, Eckert J: Cestodes. *Echinococcus*.*Gastroenterol Clin North Am* 1996; 25:655–689.