

# Primary Hydatid Cyst Of The Spleen: A Rare Site Of Presentation

S Sahu, R Srivastava, D Bahl, P Sachan

## Citation

S Sahu, R Srivastava, D Bahl, P Sachan. *Primary Hydatid Cyst Of The Spleen: A Rare Site Of Presentation*. The Internet Journal of Surgery. 2007 Volume 14 Number 1.

## Abstract

The larval form of *Echinococcus granulosus* is the most common causative organism of hydatid disease. The most common sites of hydatidosis are liver and lungs. We present a rare case of a primary hydatid cyst of the spleen that was detected incidentally. Splenectomy was the procedure advocated.

## INTRODUCTION

Hydatid disease caused by the genus *Echinococcus* is endemic in Middle East, South America, North Africa, Indian subcontinent, Australia and New Zealand. *Echinococcus granulosus* is the commonest organism involved, with dogs as the definitive host and human beings acting as an accidental intermediate host. Rarely infestation with *Echinococcus multilocularis* and *Echinococcus vogeli* may also cause hydatid disease. After ingestion, the eggs hatch and the resultant oncospheres penetrate the intestinal mucosa of humans and enter the circulation. They primarily lodge either in the liver, lungs or kidneys which are the organs acting as filters of the circulation of the body. In the organs where these organisms lodge, they slowly develop into a cavity lined with germinal epithelium, outside of which develops a laminated acellular area.<sup>1</sup>

## CASE REPORT

A 78-year-old female with diabetes, asthma, hypertension and heart block with apparently no abdominal complaints, undergoing medical consultation was advised an X-ray of the chest, which revealed a well-defined, rounded soft-tissue opacity with calcified margins in the left hypochondrium. She was referred to the surgical department for further investigations. On examination, her vital parameters were within normal limits. Examination of the abdomen revealed no abnormality.

Routine investigation revealed: hemoglobin 11.1 gm/dl, total leukocyte count 11.800 /mm<sup>3</sup> and differential leukocyte count: neutrophils 67%, lymphocytes 21%, eosinophils 8%, monocytes 2%, basophils 2%. Renal and liver function tests

were within normal limits.

Plain radiological imaging of the abdomen revealed a well-defined, rounded soft-tissue opacity with calcified margins in the left hypochondrium (FIG-1).

## Figure 1

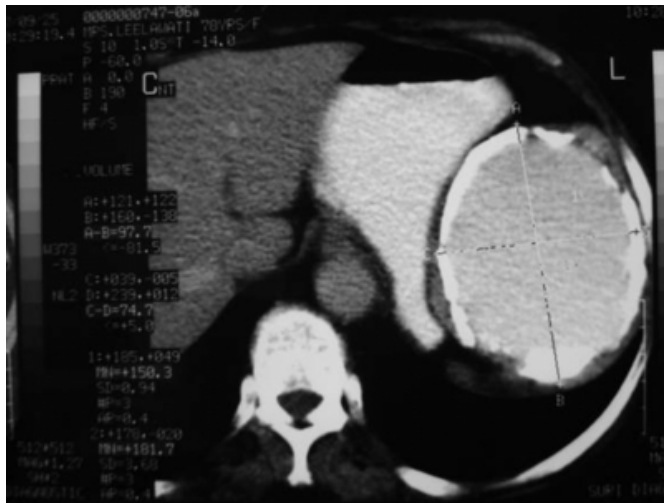
Figure 1: Plain X-Ray Of The Abdomen Revealing A Well-Defined Rounded Soft-Tissue Opacity With Calcified Margins In The Left Hypochondrium



Contrast-enhanced computed tomography of the abdomen showed a well-defined rounded mass with dense calcification in the superior pole of the spleen suggestive of old calcified cyst or abscess (FIG-2).

**Figure 2**

Figure 2: CT Scan Of The Abdomen Showing A Well-Defined Rounded Mass With Dense Calcification In The Superior Pole Of The Spleen Compressing The Stomach



Surgical exploration was planned which revealed an infected hydatid cyst of the spleen with abscess formation (FIG-3).

**Figure 3**

Figure 3: Specimen Of Infected Hydatid Cyst Of The Spleen With Abscess



Splenectomy was done. The patient had an uneventful post-operative recovery and was discharged on the 8<sup>th</sup> post-operative day with a regimen of albendazole.

Histopathology of the specimen confirmed a hydatid cyst of the spleen.

**DISCUSSION**

Splenic hydatid disease is rare and the incidence is reported between 2-3.5% by different authors. Primary infestation of the spleen usually takes place by the arterial route after the

parasite has passed the two filters (hepatic and pulmonary). A retrograde venous route, which bypasses the lung and liver, is also reported. Secondary splenic hydatid disease usually follows systemic disseminated or intraperitoneal spread following ruptured hepatic hydatid cyst. <sup>2, 3, 4, 5, 11</sup>

The hydatid cyst consists of three layers. The outer adventitia is formed of compressed splenic tissue, a middle layer of friable ectocyst and an inner germinal layer from which a large number of scolices are produced. <sup>6</sup>

Splenic hydatid cysts are usually asymptomatic but may present as a painful mass in the left upper quadrant. An enlarged spleen may be found. The complications of untreated splenic hydatid cyst are mainly infection, intraabdominal rupture and fistulization to the bowel, mainly colon. Rupture of splenic hydatid cyst into the thorax leading to splenothoracic fistula has also been reported. Severe anaphylactic reactions due to rupture of the cyst are also reported leading to fever, pruritus, dyspnea, stridor and edema of the face. Portal hypertension is also described with splenic hydatidosis. <sup>2, 6, 13, 15</sup>

The main differential diagnoses of splenic hydatidosis are splenic cystic lesions such as pseudocyst, abscess, haematoma and cystic neoplasm. <sup>6, 12</sup>

Eosinophilia may be the finding on hematological investigation. Marginal or crumpled eggshell-like calcifications in the splenic area on abdominal or chest radiograph are suggestive of splenic hydatidosis. Sonography may reveal a solitary unilocular lesion or rarely multiple well-defined anechoic spherical cystic lesions with hyperechoic marginal calcification in the spleen. Computed tomography may show the cystic lesion with or without the daughter cysts within the spleen with an attenuation value near that of water without any contrast enhancement. Wall calcification is more clearly seen with CT of the abdomen. <sup>7, 8</sup>

Hydatid immunoelectrophoresis, enzyme linked immunoabsorbent assay (ELISA), latex agglutination and indirect haemagglutination test are the different serological tests for diagnosis, screening and follow-up for recurrence. <sup>9</sup>

Splenectomy has been the traditional treatment of choice for splenic hydatid cyst. Laparoscopic approach has also been advocated for uncomplicated hydatid cyst of the spleen. Albendazole and or praziquantel are the drugs recommended for the treatment of this disease. <sup>6, 10, 14</sup>

## **CONCLUSION**

Splenic hydatidosis is a rare site of presentation of hydatid disease and should be suspected on detection of a splenic cyst in endemic areas of hydatid disease. Computed tomography is the most sensitive investigation for diagnosis. Splenectomy is the treatment of this rare disease.

## **CORRESPONDENCE TO**

Dr. Shantanu Kumar Sahu Assistant Professor, Department of General Surgery Himalayan Institute of Medical Sciences Swami Ram Nagar Post: Doiwala Dehradun Uttarakhand India Mob.: 0-9412933868 Email: Intshantanu@yahoo.co.in

## **References**

1. Brown HW, Neva FA: Basic Clinical Parasitology, Ed 5, pp 191-8. Appleton-Century Crofts, 1983.
2. Franquet T, Montes M, Lecumberri FJ, Esparza J, Bescos JM. Hydatid disease of the spleen: imaging findings in nine patients. *Am J Roentgenol* 1990; 154:525-8.
3. Uriarte C, Pomares N, Martin M, Conde A, Alonso N, Bueno A. Splenic hydatidosis. *Am J Trop Med Hyg* 1991; 44:420-3.
4. Ionescu A, Jakab A, Jutis T, Forai F, Ota A. Splenic hydatid cyst (Article in Romanian). *Rev Med Chir Soc Med Nat Iasi* 1990; 94:525-8.
5. Kiresi DA, Karabacakoglu A, Odev K, Karakoese S. Uncommon Locations of Hydatid Cysts. *Acta Radiol* 2003; 44: 622.
6. Col Hariqbal Singh, Maj Sumeet Arora. Primary Hydatid Cyst of the Spleen. *MJAFI* 2003; 59: 169-170.
7. Herrera Merino N, Abascal Morte J, Diaz del Rio Botas M, et al. Splenic hydatid cyst. A report of 16 cases (Article in Spanish). *Ev Esp Enferm Dig* 1991; 79:254-8.
8. Kalouidouris A, Pissilosis C, Pontifex G. CT characterization of multivesicular hydatid cysts. *J Comput Assist Tomogr* 1984; 8:839-45.
9. Kune GA, Morris DI. Hydatid disease. In: Schwasyz & Ellis, editors. *Maingot's Abdominal Operations*, 9th ed. Appleton & Lange, 1989:1225-40.
10. Khoury G, Abiad F, Geagea T, Nabout G, Jabbour A. Laparoscopic treatment of hydatid cysts of the liver and spleen. *Surg Endosc* 2000; 14:243-5.
11. Jahani MR, Roohollahi G, Gharavi MJ. Splenic Hydatid Cysts in a 20-Year-Old Soldier. *Military Medicine* 2004; 169: 77-78.
12. Uysal S, Gokharman D, Tuncbilek I, Kacar M, Yigit H, Kosar U. Isolated skeletal and splenic hydatid disease. *Indian J Radiol Imaging* 2006; 16:333-4.
13. Elfortia M, et al. Segmental portal hypertension due to a splenic echino cyst. *Eur J Ultrasound* 2000; 11: 21-3.
14. Safioleas M, Misiakos E, Manti C: Surgical treatment for splenic hydatidosis. *World J Surg* 1997; 21: 374-8.
15. Alba D, Arribas P. Splenothoracic fistula complicating primary splenic hydatidosis. *Thorac Cardiovasc Surg* 1996; 111: 1103-1104.

**Author Information**

**Shantanu Kumar Sahu, MS (General Surgery)**

Assistant Professor, Department of General Surgery, Himalayan Institute of Medical Sciences

**Rajendra Srivastava, MD(Radiology)**

Assistant Professor, Department of Radiology, Himalayan Institute of Medical Sciences

**Dig Vijai Bahl, MS (General Surgery), MCh (Cardio-thoracic Surgery)**

Professor, Department of General Surgery, Himalayan Institute of Medical Sciences

**Praveendra Kumar Sachan, MS (General Surgery)**

Professor and Head, Department of General Surgery, Himalayan Institute of Medical Sciences