CASE REPORT

Laparoscopic Management of Hydatid Cyst of Spleen: A Rare Case Report

Nalinikanta Ghosh[1], Ashok Kumar[2], Nishant Malviya[3]

Abstract

Aim: Aim of reporting this case is to show the feasibility and outcomes of laparoscopic splenectomy in hydatid disease of spleen.

Background: Hydatid cyst is a zoonotic disease and it can affect humans. It can involve any organ; liver is the most common organ to involve, and in rare cases spleen could also be involved. Isolated splenic involvement is even rarer. Management is splenectomy. Laparoscopic splenectomy is feasible if uncontrolled spill is avoidable. Here we are presenting a case of laparoscopic splenectomy in an isolated splenic hydatid cyst.

Case description: A 41 years old lady presented with left upper abdominal Pain for six months. There was no chest or other abdominal complaints. Examination revealed a palpable spleen. Ultrasonography abdomen, contrast-enhanced computed tomography, and hydatid serology help to diagnose splenic hydatid, cystic echinococcosis type. Vaccination and perioperative albendazole were administered. She underwent laparoscopic splenectomy. Standard steps were followed to prevent spillage. The specimen was delivered through Pfannenstiel incision. Cut-section demonstrated hydatid membranes.

Conclusion: Isolated splenic hydatid is rare and rarely managed laparoscopically. It should be practiced when expertise available.

Clinical significance: Rare entity of isolated splenic hydatid cyst could be treated by laparoscopic method without causing any perioperative spill or complications and preserve all benefits of laparoscopic surgery in presence of expertise.

Keywords: Laparoscopic splenectomy, Splenic hydatid cyst.

World Journal of Laparoscopic Surgery (2021): 10.5005/jp-journals-10033-1437

Background

Hydatid cyst is a zoonotic disease. Humans are accidental hosts and known as dead end in the chain of transmission. The liver is the most common site of infection followed by the lungs.[1] It can be disseminated to any part of the body. Spleen is rarely affected and isolated affection is even rarer. There are only a few cases reports in the literature. Surgery is the preferred treatment modality with perioperative albendazole. Open surgery is usually preferred to prevent spillage but a laparoscopic approach is feasible. We are presenting a case of symptomatic isolated splenic hydatid that was managed with laparoscopic splenectomy.

[1–3]Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Corresponding Author: Ashok Kumar, Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India, Phone: +91 522 2495537, e-mail: drashok97@gmail.com

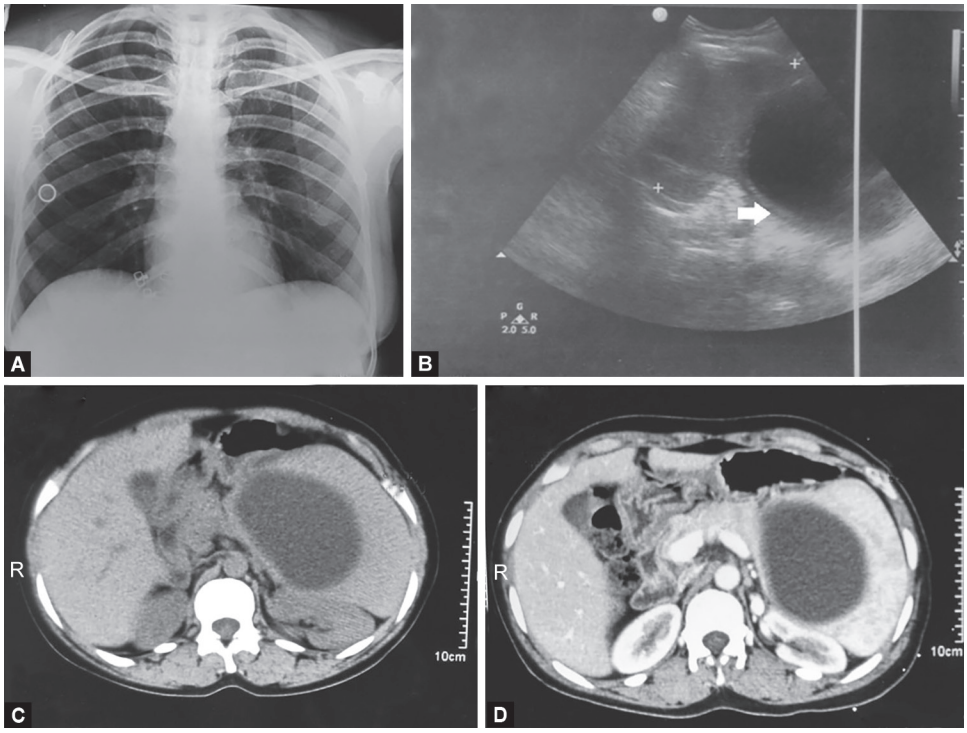
How to cite this article: Ghosh N, Kumar A, Malviya N. Laparoscopic Management of Hydatid Cyst of Spleen: A Rare Case Report. World J Lap Surg 2021;14(1):55–57.

Source of support: Nil

Conflict of interest: None

Case Description

A 41 years old lady presented with complaints of mild, dull aching pain in the left upper abdomen for 6 months. There was no pet breeding at home or in neighbor. She had no fever, jaundice, or loss of appetite or weight. She had no altered bowel habits. She did not complain of recurrent infections or easy bruising. She was averagely built and nourished. There was no cervical, axillary, or inguinal lymphadenopathy. Chest examination was normal. The spleen was palpable 4 cm below the left costal margin. No hepatomegaly or free fluid in the abdomen. With this, she was diagnosed with splenomegaly with no symptoms suggestive of hypersplenism. Her hemogram, renal and liver function tests, and coagulation profile were normal. Chest X-ray was normal. She was evaluated with abdominal ultrasonography (USG), which revealed an 11.3 × 11.2 × 10 cm cystic lesion in the inferior pole of the spleen with dependent hyperechoic contents. Echinococcal IgG (ELISA) was positive. Contrast-enhanced CT (CECT) revealed an enlarged spleen with a well-defined cystic lesion with a thin enhancing wall seen in the lower pole, measuring 11.5 × 10.5 × 9 cm. No septa or calcification or mural nodule demonstrated, and there was no other lesion in the abdomen. With these findings, she was diagnosed with asymptomatic splenic hydatid cyst probably cystic echinococcosis type (Fig. 1). She was planned for splenectomy along with the removal of cyst. With available expertise in advanced laparoscopy, she was planned for laparoscopic splenectomy. She was vaccinated against all three capsulated organisms. Two 10 mm and two 5 mm ports were placed as per convenience (Fig. 2). Standard steps were followed for splenectomy, and the spleen was removed through Pfannenstiel incision. There was no spillage of contents. Surgical specimen and its cut-section were shown in Figure 3. Histopathological examination demonstrated hydatid membranes. Postoperative course was uneventful and she was advised three weeks of



Figs. 1: (A) Chest X-ray posteroanterior view: normal skiagram; (B) USG abdomen showing hypoechoic cystic lesion with dependent hyperechoic contents; (C) Noncontrast CT showing hypodense lesion with no calcification; (D) Contrast-enhanced CT showing hypoattenuated lesion with no internal septa or mural nodule

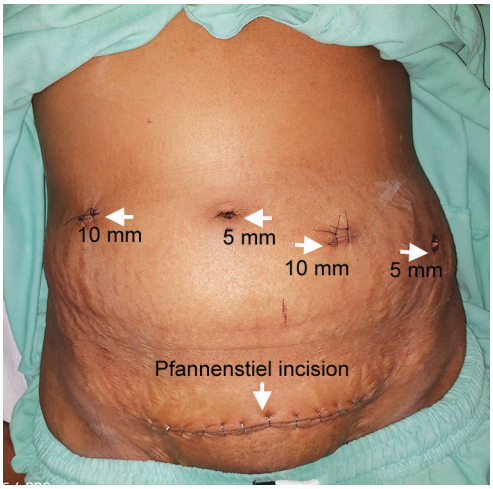


Fig. 2: Showing port placement and Pfannenstiel incision for specimen retrieval

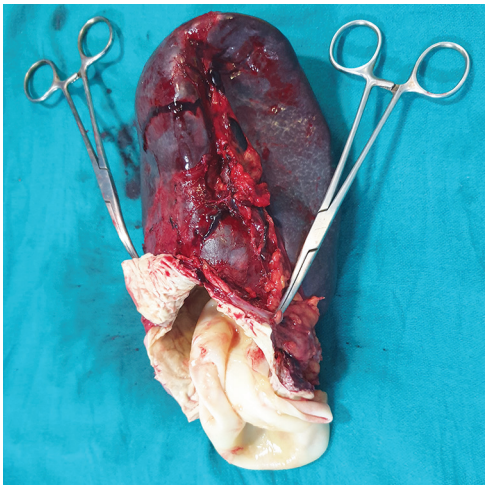


Fig. 3: Cut-section showing splenic cyst with membranes

albendazole treatment. She was discharged on postoperative day 5. On 6 months follow-up she is doing well.

Discussion

Hydatid cyst is a zoonotic disease and humans are affected accidentally. Mostly it is caused by *Echinococcus granulosus*.[2] Most common site of involvement is liver. It can involve any organ in the body, spleen is rarely involved by hydatid cyst 0.5 to 4%.[3] Isolated splenic involvement is even rare entity. The spleen may be involved through the splenic artery after bypassing liver and lungs or through retrograde involvement through the splenic vein.[4]

Patients usually present with upper abdominal symptoms. Pain is the most common complaint and it may be due to capsular stretching. If there is a cyst near hilum causing splenic vein compression, it may present with left-sided portal hypertension. There may be symptoms of hypersplenism also. Diagnosis is made with imaging (USG abdomen, CECT) and supported by hydatid serology. The final diagnosis is made on opening the

Table 1: Case reports/series of isolated splenic hydatid cyst

Author	*Year*	*Number of cases*	*Management*
Kumar et al.[2]	2016	1	Laparoscopic splenectomy
Vezakis et al.[9]	2012	2	1 case, open splenectomy 1 case, laparoscopic splenectomy
Gharaibeh[5]	2001	1	Lap splenectomy
Malik et al.[8]	2011	8	Open splenectomy
Hepgül et al.[11]	2010	1	Open splenectomy
Karakaya[6]	2007	2	Open splenectomy
Durgun et al.[7]	2003	14	Open splenectomy
Safioleas et al.[10]	1997	10	Open splenectomy

cyst and demonstrating the daughter cyst. Histopathology also helps in atypical cases. Management is mainly surgical with perioperative albendazole.[5] Open method is preferred as there is a fear of dissemination and anaphylactic reaction following rupture. But there are few reports in the literature of laparoscopic approach because of its technical challenges and risk of intraperitoneal rupture. In experienced hands, it is feasible and it provided all postoperative and cosmetic advantages of laparoscopy. Table 1 showing case series and reports on isolated splenic hydatid cyst and few among them were managed laparoscopically.[6–11] Our patient was also managed laparoscopically and recovered early with early resumption of daily activities.

Conclusion

Splenic hydatid cyst is a rare entity and isolated involvement is rarest. It requires surgical management without causing spillage. The laparoscopic approach has many advantages and it should be preferred when expertise available.

Clinical Significance

Here we are reporting a rare case of isolated splenic hydatid cyst, more importantly here we performed the surgery by laparoscopic method and shown excellent postoperative result, this showing the feasibly laparoscopic procedure even in splenic hydatid disease without any perioperative spill or complications in presence expertly of advance laparoscopy.

Acknowledgments

The authors wish to thank Prof VK Kapoor, Professor and Unite Head of Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Science, Lucknow, India, for guiding them and for his moral support and motivation for them.

The authors obtained consent from patients or close kin for the images and other clinical information to be reported in the journal. They understand that the names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

References

1. Gupta A, Kakkar A, Chadda M, et al. A primary intra pelvic hydatid cyst presenting with foot drop and a gluteal swelling. Br J Bone Joint Surg 1998;808:1037–1038. DOI: 10.1302/0301-620X.80B6.8793.
2. Kumar P, Hasan A, Kumar M, et al. Isolated hydatid cyst of spleen: a rare case with rare presentation. Int J Surg Case Rep 2016;28:279–281. DOI: 10.1016/j.ijscr.2016.10.018.
3. Arikanoglu Z, Taskesen F, Gumus H, et al. Selecting surgical modality to treat a splenic hydatid cyst: total splenectomy or spleen-saving surgery? J Gastrointest Surg 2012;16:1198–1193. DOI: 10.1007/s11605-012-1837-2.
4. Fernández-Ruiz M, Guerra-Vales JM, Enguita-Valls AB, et al. Splenic hydatid cyst, a rare location of extrahepatic echinococcosis: report of six cases. Eur J Intern Med 2008;19:51–53. DOI: 10.1016/j.ejim.2008.02.003.
5. Gharaibeh KI. Laparoscopic excision of splenic hydatid cyst. Postgrad Med J 2001;77:195–196. DOI: 10.1136/pmj.77.905.195.
6. Karakaya K. Primary hydatid cyst disease of the spleen; a rare entity: report of two cases. Trakya Univ Fak Derg 2005;24:256–258. Available from: https://hdl.handle.net/20.500.12628/3159.
7. Durgun V, Kapan S, Kapan M, et al. Primary splenic hydatidosis. Dig Surg 2003;20:38–41. DOI: 10.1007/s12664-011-0104-x.
8. Malik AA, ul Bari S, Younis M, et al. Primary splenic hydatidosis. Indian J Gastroenterol 2011;30:175–177. DOI: 10.1007/s12664-011-0104-x.
9. Vezakis A, Dellaportas D, Polymeneas G, et al. Two cases of primary splenic hydatid cyst in Greece. Korean J Parasitol 2012;50:147–150. DOI: 10.3347/kjp.2012.50.2.147.
10. Safioleas M, Misiakos E, Manti C. Surgical treatment for splenic hydatidosis. World J Surg 1997;21:374–378. DOI:10.1007/PL00012256.
11. Hepgül G, Tıhan D, Kocael P, et al. Case report: primary splenic hydatidosis. Turk Parazitolojii Derg 2010;34(3):184–186. PMID: 20954121.