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Case Report

Recurrent Hydatid Cyst of Liver with Asymptomatic Concomitant Hydatid Cyst of Lung: An Unusual Presentation- Case Report

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Abstract

A 40-year-old male patient presented to us with complaints of pain in abdomen for the past 2 weeks and fever for 3 days. The patient gave history of being previously operated for hydatid cyst of liver 15 years back. His chest radiograph and computed tomography scan revealed a cystic lesion in the right lobe of liver and a cyst in left lung. The patient was managed surgically. Aspirate from the cyst fluid showed plenty of hooklets and scolices of *Echinococcus granulosus*. An intact brood capsule was also seen. Diagnosis of hydatidosis was further confirmed by histopathological examination. Post-operative the patient had a good recovery.

Introduction

Hydatid cyst may develop in any organ in the body. A single organ is involved in 85-90% of cases. Liver is the organ most commonly involved. Lungs are second most common organ involved in 10-30% of cases (1). Simultaneous involvement of both liver and lung is seen in about 10% of cases (2, 3). We report an unusual clinical presentation of recurrent

hydatid cyst of liver with concomitant asymptomatic cyst in lung. The overall reported recurrence rate for hydatid cyst is 4.6-22.0% in different studies (4).

Case Report

A 40-year-old male patient presented to us at Surgery OPD of NSCB Subharti Medical

College, Meerut, India in June 2013 with complains of pain in abdomen for the past 2 weeks and fever for 3 days. He was a weaver by occupation but was a pet lover and gave history of contact with pets like dogs, cats and goats. The patient gave past history of operation for hydatid cyst in liver 15 years back.

On clinical examination, there was a scar in right subcostal region. A lump was felt in the right hypochondrium, which was tender on palpation. His ultrasonography abdomen revealed a hydatid cyst in right lobe of liver and chest radiograph (Fig. 1) revealed an unusual shadow in paracardiac region. Computed Tomography (CT) scan of abdomen and chest was done which helped to exclude cases of tumors and other benign cysts. It showed a fairly well defined rounded lesion with septae and multiple cysts in right lobe of liver. Size of the cyst was 11.5 x 11.0 cm. CT scan of chest showed a well-defined hypodense lesion of 5.4 x 5.3 cm in superior and posterior basal segment of lower lobe of left lung with peripheral calcification (Fig.2). His haemoglobin percentage was 9.2 gm/dl and total leucocyte count was $9.6 \times 10^9/L$ with no eosinophila. Liver function tests showed mild derangement. Total bilirubin was 2.5 mg/dl with direct bilirubin 2.2 mg/dl and indirect bilirubin 0.3 mg/dl.

SGOT (146 IU/L), SGPT (225 IU/L) and Alkaline Phosphatase (142 IU/L) levels were also elevated. Following a positive serology and radiological finding diagnosis of hydatid cyst was made and the patient was planned for surgery for both hepatic and pulmonary cyst.

Informed consent was taken from the patient for the operation and there were no ethical issues.

Operation was done under general anesthesia with one lung ventilation (OLV) achieved with a double lumen endobronchial tube (DLT). Separate incisions were given to approach both cysts. First, a left side thoracotomy was done with removal of fifth rib. The cyst was adhered to thoracic aorta. Cyst was opened and cyst contents were removed with simultaneous irrigation with hypertonic saline. The cyst wall adhered to aorta was left. A drainage tube was left in cavity. Two intercostal drains under water seal were also put in chest cavity. A separate right subcostal incision was given to approach the cyst in liver. This cyst was found on lower surface of liver. Cyst was opened and cyst contents were removed with simultaneous irrigation with hypertonic saline. Partial pericystectomy with omentopexy and drainage was done.

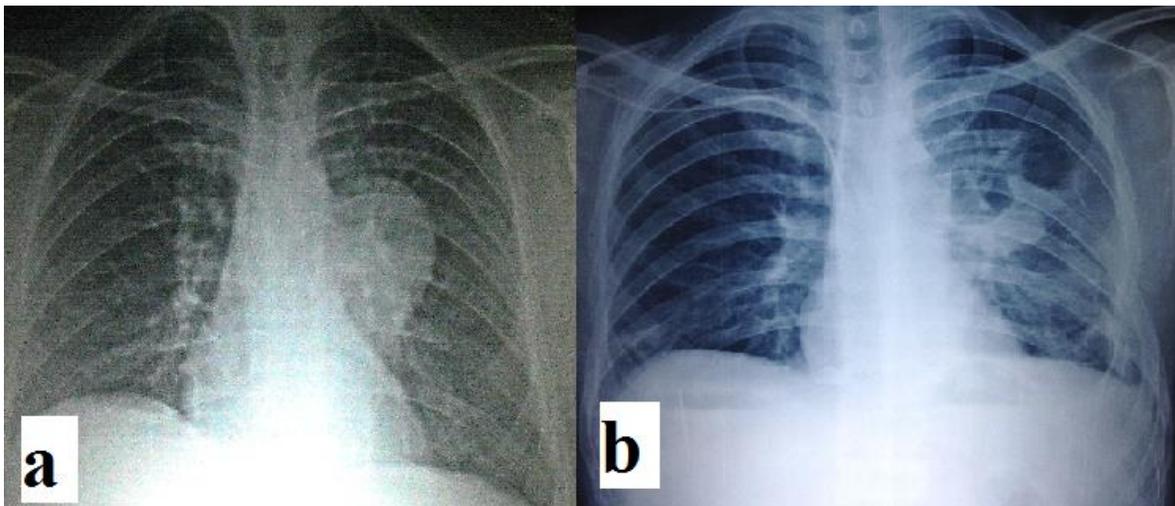


Fig.1: (a) Chest Radiograph showing unusual shadow in paracardiac region (b) post operative radiograph showing clearance of lesion. (Source: Department of Radiology, NSCBSMC, Meerut)

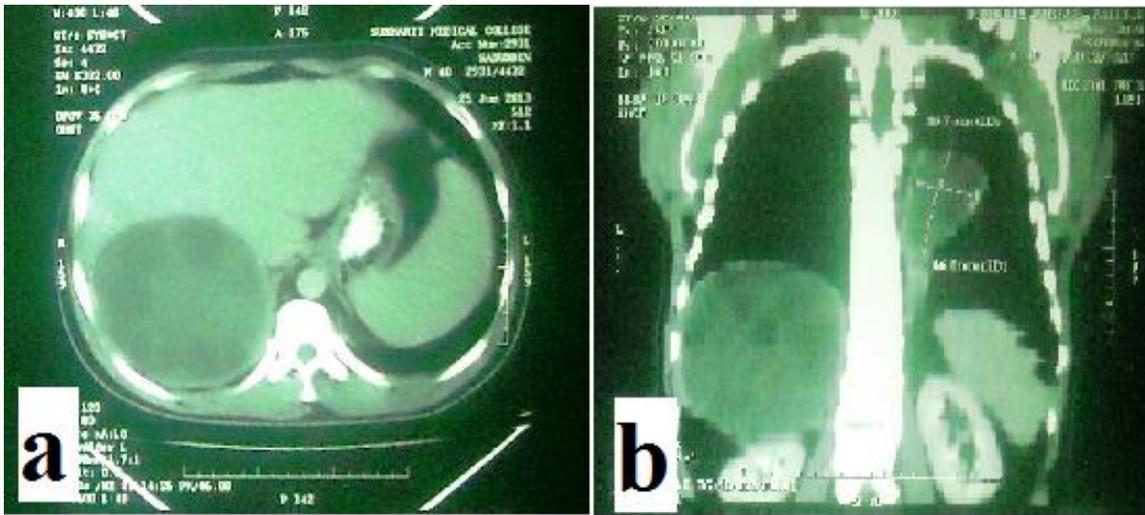


Fig. 2: (a) CT abdomen showing lesion in right lobe of liver (b) CT chest showing lesion in left lung (Source: Department of Radiology, NSCBSMC, Meerut)

The cyst contents removed was sent to the laboratory for microscopic and histopathological examination. Direct microscopic examination of the cyst content showed plenty of hooklets, scolices and fragments of cyst wall resembling *Echinococcus granulosus* [Fig.3].

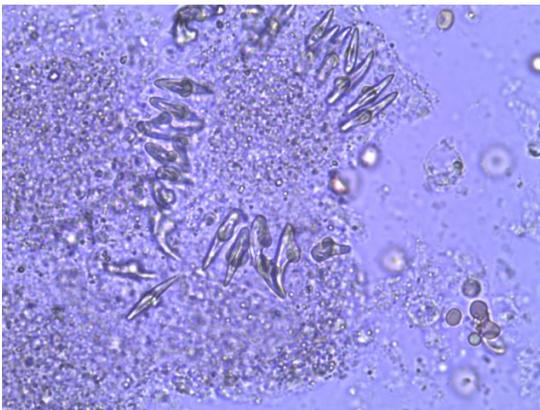


Fig. 3: Direct microscopy showed plenty of hooklets, scolices and fragments of cyst wall. (Source: Department of Microbiology, NSCBSMC, Meerut)

An intact brood capsule was also seen. Antibodies to *Echinococcus* were significantly positive (1:18) by indirect haemagglutination test (IHA). Histopathological examination revealed classical echinococcal cyst (Fig.4). Mi-

crobiological findings, a positive serology and histopathological findings reconfirmed the case of hydatidosis. Following surgery, the patient had a good post-operative recovery. Symptomatically there was marked improvement. The patient was discharged on a regime including Albendazole (10mg/kg/day) for 28 days, as it was a case with recurrence. He is now in regular follow up from last 12months to the hospital. There is no further recurrence and the patient has shown good recovery.

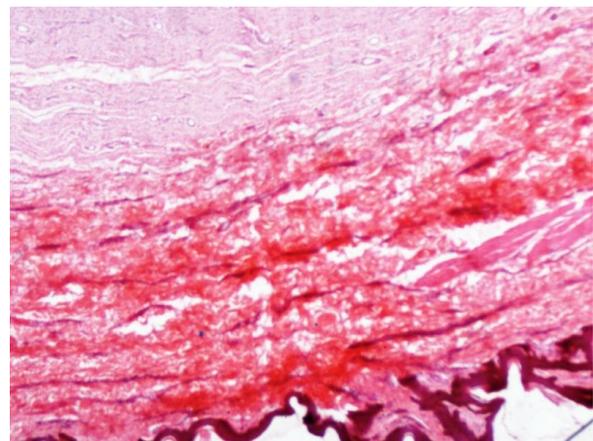


Fig. 4: Histopathological examination showing echinococcal cyst wall (Source: Department of Pathology, NSCBSMC, Meerut)

Discussion

The most common site of involvement in hydatid disease is liver. Lung is also a common site. Liver and lung both are simultaneously involved in about 10% of cases (2, 3). Some of the series in children report higher incidence of pulmonary hydatidosis (2). We report an unusual clinical presentation of a case of recurrent hydatid cyst of liver with asymptomatic concomitant hydatid cyst of lung in an adult patient, a pet lover. Fikret Kanat et al., in the retrospective review of 134 patients operated for pulmonary hydatid cysts over a period of 10 years found that a concomitant hepatic cyst was present in 79% of adult as compared to 33% in children and concluded that isolated pulmonary hydatid cyst is more common in children (5).

Recurrence of hydatid cyst is defined as the appearance of new and growing hydatid cysts after therapy. It includes reappearance and growth at the site of previously treated hydatid cyst or the appearance at a new distant site due to spillage (6, 7). Prousalidis et al. studied 584 patients of hydatid cyst. Follow up was complete for 484 (82.8%) patients and cysts recurred in 51 patients (8.7%) (4). Our patient also had history of previous operation for hepatic hydatid cyst 15 years back. He had recurrence at site of previously treated cyst and appearance of new distant disease. Two most important causes for recurrence are minute spillage of the hydatid cyst and inadequate treatment due to missing cysts and incomplete pericystectomy (4). Kapan et al. have also reported a recurrence rate of 4.65% during the follow up period of 60.5 months (8).

Hydatid disease of lung may present with varied clinical manifestations, such as haemoptysis and cough (9). In our patient, the pulmonary cyst was asymptomatic and it was diagnosed incidentally. Darwish has reported the incidence of asymptomatic hydatidosis as 18% in his study. The most frequent present-

ing symptom in pulmonary hydatidosis was cough (54%) (10).

There is a controversy regarding the role of fine needle aspiration cytology (FNAC) in diagnosis of hydatid cyst. The risks are chances of rupture of the cyst, anaphylaxis and dissemination (11). Ultrasonography, computed tomography, and magnetic resonance imaging (MRI) are superior to plain radiography in diagnosis of hydatid cyst (12). CT scan with contrast may demonstrate a thin enhancing rim if the cyst is intact (13). In the present case, the diagnosis was made by typical appearance on computed tomography and was further confirmed by demonstration of hooklets and brood capsules in direct microscopic examination of cyst contents as well as by histopathology.

Surgical management is the basic treatment for hydatid disease. Surgery for hydatid disease is divided into two subgroups; conservative and radical. Conservative surgery (evacuation of the cyst contents and partial pericystectomy) plus albendazole achieves satisfactory long-term results. Radical surgery (total resection, cystopericystectomy) is preferred only in selected patients (4). In general, chemotherapy is used as a complement to operative treatment to avoid recurrence (12). In our case, conservative surgery was followed by chemotherapy.

Only a few reports are available mentioning the efficacy of drug therapy. Some case reports reported complete disappearance of hydatid cysts with Albendazole therapy in a daily dose of 10 mg/kg, taken three times a day for four months (14, 15). However, in the present case the patient was not able to specify the dose and duration of treatment he had taken 15 years back for hydatid cyst of liver. Albendazole is a broad-spectrum oral antihelminthic drug, which act by blocking glucose uptake of the larvae and the adult worm. The glycogen storage is depleted and thereby decreasing the ATP formation resulting in the death of the parasite.

To conclude, hydatid disease has varied clinical manifestations. High suspicion should prompt early radiological assessment as chest radiograph (CXR), ultrasonography and CT scan identifies most cases. Both thoracic and abdominal sites should be evaluated in suspicious cases because of the relatively high co-existence of disease.

Acknowledgements

The authors declare that there is no conflict of interests.

References

1. Kulpati DD, Hagroo AA, Talukdar CK, Ray D. Hydatid Disease of Lung. *Indian J Chest Dis.* 1974; 16:406-10.
2. Recep T, Sema O, Nuri S, Refik A, Ibrahim A, Hasan O, et al. Pulmonary Hydatid Cyst in Children. *Ann Med Sci.* 2000; 9:59-62.
3. Altinok MT, Kilie S, Irsi AS, Alkan A, Baysal RT, Du IA. Hydatid Disease with Rare Localizations: A Case Report. *Medicin Inonu Univ.* 2002; 9:210-3.
4. Prousalidis J, Kosmidis C, Anthimidis G, Kapoutzis K, Karamanlis E, Fachantidis E. Post-operative Recurrence of Cystic Hydatidosis. *Can J Surg.* 2012 February; 55(1):15-20.
5. Kanat F, Turk E, Aribas OK. Comparison of Pulmonary Hydatid Cysts in Children and Adults. *ANZ J Surg.* 2004; 74:885-9.
6. Sielaff TD, Taylor B, Langer B. Review Recurrence of Hydatid Disease. *World J Surg.* 2001 Jan; 25(1):83-6.
7. Magistrelli P, Masetti R, Coppola R, Messia A, Nuzzo G, Picciocchi A. Surgical Treatment of Hydatid Disease of the Liver A 20 Year Experience. *Arch Surg.* 1991 Apr; 126(4):518-22.
8. Kapan M, Kapan S, Goksov E, Kol E. Post-operative Recurrence in Hepatic Hydatid Disease. *J Gastrointest Surg.* 2006 May; 10(5):734-9.
9. Pandey A, Arya CL, Asthana AK. Pulmonary Hydatidosis: An Unusual Cause of Haemoptysis. *Ind J Med Microbiol.* 2007; 25(2):158-60.
10. Darwish B. Clinical and Radiological Manifestations of 206 Patients with Pulmonary Hydatidosis Over a Ten Year Period. *Primary Care Respiratory Journal.* 2006; 15:246-51.
11. Saen Z, Santamaria J, Moreno Casado J, Nupez C. Role of Fine Needle Biopsy in the Diagnosis of Hydatid Cyst. *Diagn Cytopathol.* 1995; 13:229-32.
12. Ramos G, Orduna Garcia Uste M. Hydatid Cyst of the Lung: Diagnosis and Treatment. *World J Surg.* 2001 Jan; 25(1):46-57.
13. Koul PA, Koul AN, Wahid A, Mir FA. CT in Pulmonary Hydatid Disease: Unusual Appearances *Chest.* 2000; 118:1645-7.
14. Singounas EG, Laventis AS, Sakas DS, et al. Successful treatment of intracerebral hydatid cysts with albendazole : Case report and review of literature. *Neurosurgery* 1992; 31:571-4.
15. Todorov T, Vutova K, Petkov D. Albendazole treatment of multiple cerebral hydatid cysts: a case report. *Trans R Soc Trop Med Hyg.* 1988; 82:150-2.