

Pulmonary Hydatid Cyst An Unusual Presentation

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The term hydatid cyst is derived from the Greek word 'hydatid'—meaning a drop of water(1). It is caused by the parasite *E. granulosus* and *E. multilocular*—the former being more commonly responsible for human disease. The commonest site of involvement is the liver followed by the lungs, although involvement of other organs like the kidney and pleura has been reported(2,3). We report a child with a massive pulmonary hydatid cyst, that caused opacity of the entire right hemithorax and was therefore, confused with pleural effusion.

Case Report

A 7-year-old boy from the poor socio-economic strata was admitted with complaints of cough (non-productive) for 6 months, fever off and on for 2 months and noticeable

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prominence of the right side of chest. Physical examination at admission revealed a malnourished boy (weight 14 kg) in respiratory distress (respiratory rate 36/min). The chest movements were diminished on right side, percussion note was dull and the breath sounds were diminished. Rest of the systemic examination was normal.

On investigation hemoglobin was 9 g/dl, TLC 9300/cumm, P72 L22 M2 E4 and ESR 65 mm fall in first hour. X-ray chest revealed a homogenous opacity of the right hemithorax with mediastinal shift to the left side (*Fig. 1*). A diagnosis of pleural effusion was made. Right pleural tapping revealed

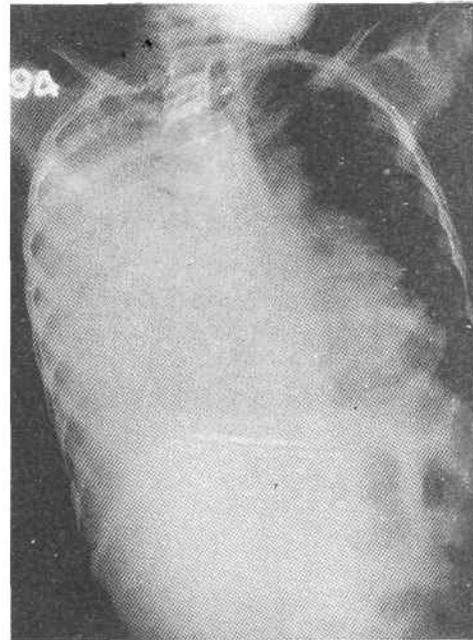


Fig. 1. X-ray chest showing opacity of the right hemithorax with mediastinal shift.

light yellow colour fluid with proteins 30 mg/dl and sugar 50 mg/dl. Cytological examination revealed only RBCs and no AFB were seen on ZN staining. The Mantoux test was negative. Chest Z-ray after repeated aspiration showed hydropneumothorax occupying the whole of right hemithorax (*Fig. 2*). The patient was then referred to the Chest Department who commented that a possibility of cyst could not be ruled out. Casoni's test, done on two occasions was negative. A mass lesion in right lung was suspected. An esophagogram done was normal and ultrasound examination did not reveal any evidence of encysted effusion in the pleural cavity. The blood gas analysis was within normal limits.

Right anterolateral thoracotomy was undertaken which revealed a large cystic mass with a whitish wall, measuring 12 X 10 cm and occupying most of the upper and middle part of pleural cavity. The upper lobe was almost completely destroyed and was sitting on top of the cyst. The middle lobe was pushed medially and compressed. There were a large number of adhesions and the enucleation of the cyst was difficult. The small upper lobe was excised. The middle lobe could be partly inflated. The postoperative period was uneventful. Histopathological examination was consistent with hydatid cyst. Follow-up at 1 month showed full expansion of the lung on right side (*Fig. 5*).

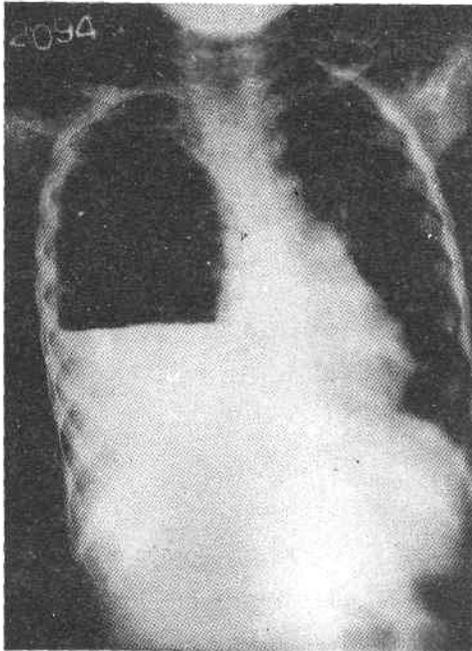


Fig. 2. X-ray chest after repeated aspiration showing an air-fluid level.

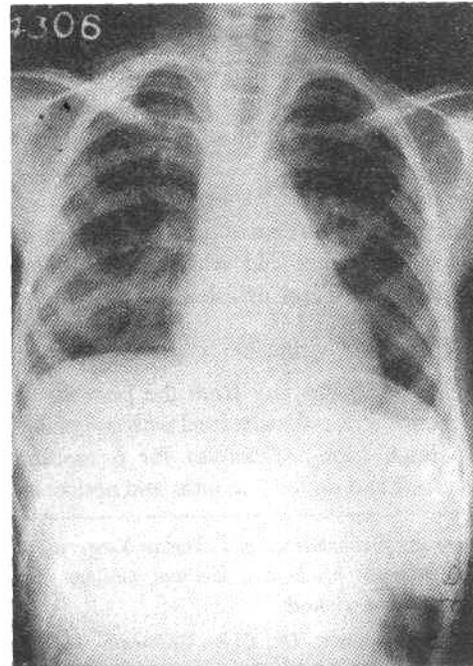


Fig. 3. X-ray chest after surgery showing full expansion of the right lung.

Discussion

Small hydatid cysts are symptomless and so may even the larger cysts be until complications develop. Clinical features depend on the anatomical location and rate of growth of the cyst. The average reported rate of growth is 2-3 cm year(4). Most pulmonary hydatids are single and contain no daughter cysts. The right lung is affected more than the left. They are usually located in the basilar segments which is probably due to the venous/lymphatic spread of hydatid scolices(5). In 6% of cases they may be bilateral and in 10% of cases, the liver may also be affected(6).

The classical appearance on X-ray is that of a solitary pulmonary mass. Another X-ray picture described is a radio lucent crescent shaped air space, which is believed to represent a retraction of ectocyst from the pericyst(4). However, any homogenous pulmonary density may represent a hydatid cyst. Although this is not a frequent diagnostic possibility, it should not be overlooked. A partial rupture of leakage of contents of the cyst will present as an air fluid level and may cause diagnostic confusion with lung abscess. In the present case the massive cyst filled the entire hemithorax and was confused with pleural effusion. A pleural tap done led to rupture of the cyst and the development of an air fluid level which was then confused with hydropneumothorax.

The recommended treatment is enucleation of the cyst. Segmental resection marsupialisation or lobectomy may have to be undertaken depending upon the location of the cyst. Recently, albendazole has been used with some success(7).

REFERENCES

1. Romero-Torres R, Campbell JR. An interpretive review of the surgical treatment of hydatid disease. *Surg Gynae Obst* 1965, 121: 851-855.
2. Sinha RNP, Lahiri TK, Kashyap A. Pleural hydatidosis. *J Indian Med Assoc* 1984, 82: 371-855.
3. EL Mahoub M, Agarwal VP, Sabharwal HS. Hydatid disease with nephropathy. *Indian Pediatr* 1987, 24: 1137-1139.
4. Vachier E, Hillman DC. Solitary pulmonary hydatid Cyst. *Pediatrics* 1965, 35: 699-703.
5. Deodhar MC, Verma M, Singh T, Dhanwade SM. Solitary pulmonary hydatid cyst. *Indian Pediatr* 1988, 25: 683-685.
6. Singh JP, Garg P. Multiorgan pediatric hydatid disease. *Indian J Surg* 1993, 55: 222-224.
7. Mansucto S, DiRosa S, Farinella S, Orsini S. Albendazole in the treatment of hydatid disease. *Trans Roy Soc Trop Med Hyg* 1987, 81: 168.