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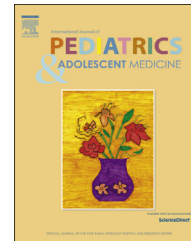


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Hydatid disease of the lung in children



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A 10-year-old boy was referred to our hospital with complaints of chest pain and shortness of breath for investigation and workup of a right lung cyst that was initially discovered during an investigation of a fever and cough two years ago. Clinical examination revealed decreased air entry on the right side with diffuse crepitation and grade 4 finger clubbing. An initial X-ray revealed a right lower lobe cavitory lesion with an irregular wavy air–fluid level with the appearance of a water lily sign (Fig. 1). An enhanced CT scan was performed and revealed a multiseptated enhancing lesion in the right lower lobe with an irregular wavy surface similar to that observed in the X-ray, and an enhancing collapsed membrane was also noted (Fig. 2). Echinococcus serology was high, and the patient was considered positive for the disease. An abdominal ultrasound of the patient was negative. The patient began treatment on albendazole, and the cyst was removed during subsequent elective surgery.

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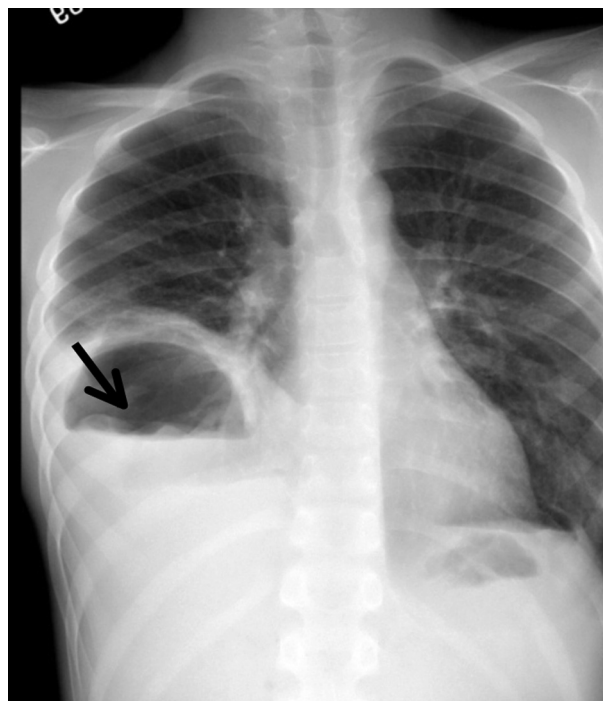


Figure 1 AP view X-ray of the chest showing large right lower lobe cavitory lesion with an irregular wavy internal air–fluid level (long arrow) giving the appearance of the water lily sign.

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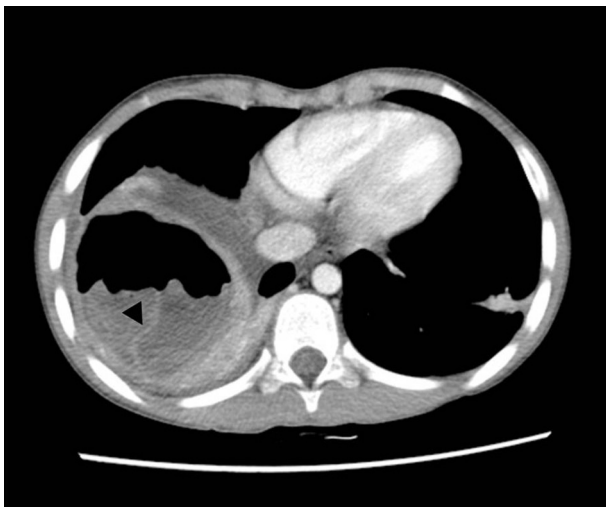


Figure 2 Axial CT scan of the chest of the same patient showing the cavitory lesion with its irregular wavy air–fluid level and internal septation representing a collapsed membrane (arrow head).

Hydatid disease is caused by the parasite *Echinococcus granulosus*, and humans act as an intermediate host during its life cycle. The disease is endemic in sheep- and cattle-grazing regions of the world, and it is more

common in children than in adults. Hydatid disease in children occurs anywhere in the body, and the liver, lung and brain are the organs most commonly involved. Echinococcosis of the lung should be kept in mind when evaluating cavitory lung lesions in children. The radiographic appearance of such lesions on X-ray depends on whether the cyst is ruptured or not. Un-ruptured (closed) cysts appear with homogeneous densities, rounded or oval cysts and smooth outlines that can be single or multiple, unilateral or bilateral, and of various sizes. Ruptured (open) cysts are established when communication between the bronchus and the cyst occurs and results in partial evacuation of the cyst, which leads to the detachment of cystic wall from its adventitia and eventually collapse within the cystic cavity, which then floats upon the remaining cystic fluid to form the “water lily sign”. CT is very useful in evaluating the internal structure of both open and closed cysts. Daughter cysts might also be observed on CT. Complications of pulmonary hydatid disease include abscess formation, residual cavities and rupture into pleural space that result in pneumothorax or hydropneumothorax.

Conflicts of interest

None.