

Abnormal chest radiograph in an asymptomatic young man – what is the differential diagnosis?

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A 26-year-old man, previously healthy, a lifelong non-smoker and HIV negative, was found to have a large left pleural effusion in the course of screening for a job on a cruise ship. He was completely asymptomatic with no abnormal clinical findings. A chest radiograph revealed a large left pleural effusion (Fig. 1) and massive left hilar, mediastinal and subcarinal adenopathy. The primary concerns were aggressive lymphoma in a young patient or pulmonary tuberculosis.

A computed tomography scan subsequently revealed multiple multilocular cystic lesions in the left hemithorax involving the mediastinum with multiple internal daughter cysts. The most caudal lesion in the left cardiophrenic angle had a convoluted appearance in keeping with detached membranes (likely to be a ruptured hydatid cyst) (Fig. 2).

Serological testing for *Echinococcus* by enzyme-linked immunosorbent assay confirmed the diagnosis of pulmonary cystic echinococcosis with high titres of IgG.

Lung hydatidosis is a zoonosis related to infection by the *Echinococcus* tapeworm species.^[1] The diagnosis of pulmonary cystic echinococcosis is primarily made by imaging, and surgery remains the main therapeutic approach.^[2]

The patient was referred to cardiothoracic surgery and underwent hydatid debulking via thoracotomy.

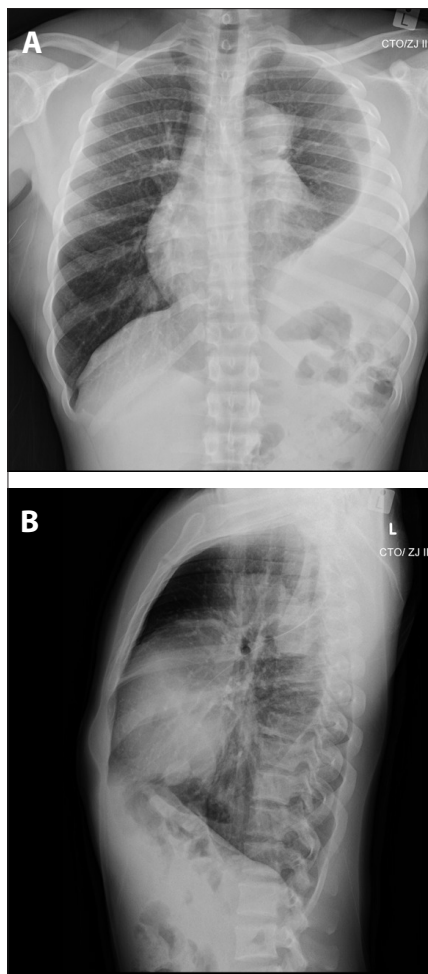


Fig 1. Frontal (A) and lateral (B) chest radiographs showing a large opacity within the left hemithorax with loss of the left costophrenic and cardiophrenic angles associated with a meniscus, and mild deviation of the mediastinum to the right in keeping with a large left pleural effusion. Associated hilar and mediastinal lymphadenopathy is present.

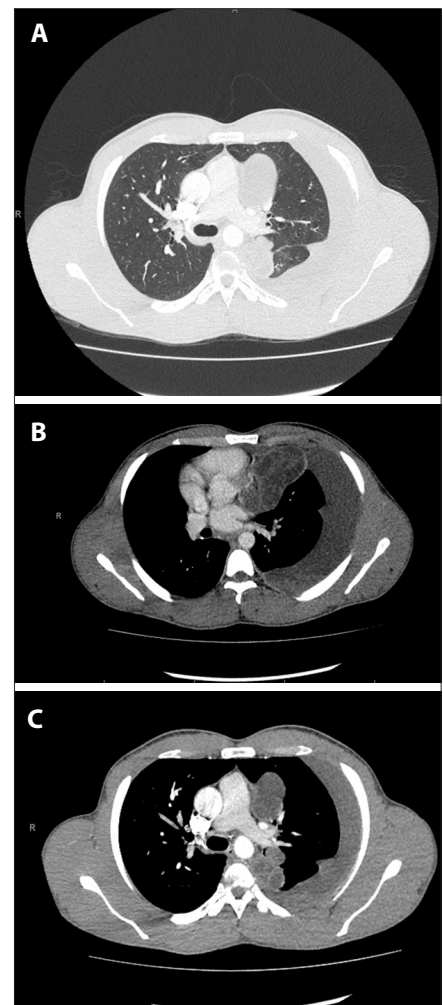


Fig. 2. Computed tomography scans of the chest in lung window (A) and soft-tissue window (B and C). The scans confirm the large left pleural effusion with multiple thin-walled multilocular cysts containing daughter cysts. The cysts invade the mediastinum and abut the pulmonary artery and descending thoracic aorta.

1. Lupia T, Corcione S, Guerrero F, et al. Pulmonary echinococcosis or lung hydatidosis: A narrative review. *Surg Infect (Larchmt)* 2021;22(5):485-495. <https://doi.org/10.1089/sur.2020.197>
2. Santivanez S, Garcia HH. Pulmonary cystic echinococcosis. *Curr Opin Pulm Med* 2010;16(3):257-261. <https://doi.org/10.1097/MCP00b013e3283386282>