CASE FOR DIAGNOSIS

Haemoptysis and a cavity in a young man

M. Pastó, V. Curull, J. Minguella, M.A. Jimenez, C. Sanjuàs, J. Broquetas

Case History

A 23 year old Algerian male was admitted to hospital due to intermittent mucopurulent and blood-stained sputum of 2 yrs duration. Temperature, blood pressure, cardiorespiratory and abdominal examination were normal. Laboratory findings showed 480 eosinophils·ml⁻¹ in peripheral blood. The lateral and posteroanterior (PA) chest roentgenograms are shown in figures 1 and 2. Empirical treatment with clindamycin was administered but no changes in chest roentgenogram were observed after one week. Computed tomography of the thorax is shown in figure 3.

A fibreoptic bronchoscopy was performed and bronchial washing was taken for cytological and microbiological analysis, with negative results.

BEFORE TURNING THE PAGE: INTERPRET THE FIGURES, AND SUGGEST DIAGNOSIS AND TREATMENT.
Interpretation of the roentgenogram and computed tomography

The PA and lateral chest roentgenogram show a cavity with an air-fluid level in the left hemithorax. The cavity could be intrapulmonary (in the apical segment of the lower lobe) or intrapleural. On the PA view it is wide and appears to be intrapleural, but on the lateral view it is narrow and looks more intrapulmonary.

Computed tomography of the thorax reveal an air-filled cavity in the left hemithorax. It appears to be located within the pleura, which is thickened all around the cavity. The adjacent part of the lung has a diminished volume and the blood vessels are pulled together. Several small bronchi are fluid-filled, but there is one open bronchus.

Diagnosis: "Loculate hydatid pyopneumothorax"

Due to the patient’s country of origin, the radiological characteristics of the image and the blood eosinophilia, a thoracic hydatidosis was suspected. This diagnosis was confirmed with positive antibodies against Echinococcus granulosus. Abdominal ultrasonography was performed to identify a possible simultaneous liver cyst, with negative results.

Treatment

The patient was submitted to surgical treatment with posterolateral thoracotomy. This procedure revealed a 1 cm thick rear pachypleuritis, as well as a cavity with purulent content and a floating hydatid membrane. Lavage of the cavity with saline solution showed two fistula orifices to the lung. Parietal cystectomy and complete decoration of the cavity with saline solution showed two fistula orifices to the lung. Parietal cystectomy and complete decoration of the cavity with saline solution showed two fistula orifices to the lung.

Diagnosis: "Loculate hydatid pyopneumothorax" as either exudative pleuritis [6], or the perforation of the cyst in the pleural cavity, the latter provoking a pneumothorax or a pyopneumothorax [7]. If the perforation takes place into a pleura with adhesions, a loculate pyopneumothorax appears, as was observed in our patient. It can be difficult, at times, to differentiate this type of image from a parenchymal cavity. In this patient, a pyopneumothorax should have been differentiated from a peripheral lung cavity similar to those produced by tuberculosis, pulmonary abscess, emphysema or congenital cyst.

The differential diagnosis between a loculate pneumothorax and a pulmonary cavity is based on the following signs, present in pleural cavities: thinner superior wall, greater variability of the size of the chamber, greater mobility in the level of fluid during respiration, different lengths of the air-fluid level when viewed at 90 degrees angles, absence of the drainage bronchus, reduction of the cavity during cough, and obtuse angle between cavity wall and thoracic wall.

In the present case, the differential diagnosis between a pleural cavity and a peripheral pulmonary cavity with an air-fluid level, had been made. Distinguishing between a hydatid pyopneumothorax and a hydatid pneumocyst can often be difficult, and sometimes requires a thoracotomy.

*Keywords:* Hydatidosis, hydatid cyst, pneumocyst, pyopneumothorax.

References