

Letters to the Editor

Unilateral Interstitial Lung Pattern as a First Sign of a Bacterial Endocarditis

Patrón pulmonar intersticial unilateral como primera manifestación de una endocarditis bacteriana

To the Editor:

Infective endocarditis (IE) refers to the set of clinical and pathological alterations accompanying an infection of the endocardium, particularly in the cardiac valves. It may be caused by countless bacterial and fungal strains. Depending on the course of the disease, it may be classified as acute or sub-acute; the latter form progresses more slowly and is associated with previously abnormal valves and prior infections.^{1,2}

We report the case of a woman who had been experiencing fever and dyspnoea for a month and whose radiology images showed a unilateral interstitial pattern compatible with pulmonary oedema of cardiogenic origin caused by bacterial endocarditis. Our search of medical literature revealed only one published case of a radiography showing a unilateral interstitial pattern due to heart failure.³

The 49-year old female patient was admitted to our unit for the first time for study of constitutional symptoms including loss of 8kg in one month and fever. Relevant factors in her personal history were discoid lupus on the lower lip, hypoacusia and smoking (one pack/day smoker for 18 years). She was not taking any habitual treatments. During the time she was admitted to our centre, physical examination was normal except for pulmonary auscultation, which detected crackling sounds in the left hemithorax, and cardiac auscultation, which detected a pansystolic murmur at 90Lpm.

Additional procedures included the following: blood work showing haemoglobin at 10mg/dl, white blood cell count 6,620/ μ l, platelet count 614,000/ μ l, fibrinogen 628mg/dl, sedimentation rate 86mm/h, C-reactive protein 118mg/dl and rheumatoid factor 8.5 U/ml (positive). All other immunological studies were normal. In the tumour marker study, CA-125 was at 43 U/ml. Biochemical analysis revealed abnormal liver function, with alanine aminotransferase (ALAT) at 126 U/l, aspartate aminotransferase (AST) at 85 U/l, gamma-glutamyl transpeptidase (GGT) at 67 U/l and lactate dehydrogenase (LDH) at 607 U/l. Functional respiratory tests showed a forced vital capacity (FVC) of 2.22L (77%), forced expired volume in one second (FEV₁) of 1.36L (55%), FEV₁/FVC of 60% and baseline oxygen saturation of 90%. No significant abnormalities were found in the bronchoscopy; cytological examination of bronchial aspirate and bronchoalveolar lavage were negative, and there were no other microbiological findings. The chest radiography showed loss of volume in the left hemithorax, areas with a ground-glass appearance and others with an interstitial pattern. Inspection with a high-resolution CT showed small bilateral pleural effusion, signs of pulmonary hypertension, decreased left hemithorax volume with widespread pulmonary involvement, interlobular and

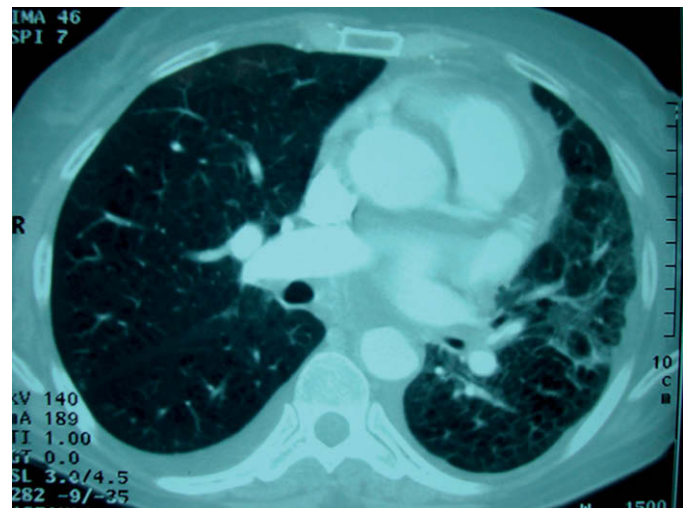


Figure 1. High-resolution computed tomography (CT) upon admission: decrease in volume of left hemithorax with widespread pulmonary involvement, interlobular and intralobular septal thickening, nodular infiltrate in the upper left lobe with pleural thickening, and centrilobular emphysema.

Table 1
Duke-Durack Criteria

Duke-Durack Criteria for Diagnosing IE	
<i>Major criteria</i>	
Positive blood culture for Infective Endocarditis	
Evidence of endocardial involvement: Intracardiac mass, partial dehiscence of prosthetic valve or new valvular regurgitation	
<i>Minor criteria</i>	
Predisposition: predisposing heart condition or intravenous drug use	
Fever: $\geq 38.0^{\circ}$ C	
Vascular phenomena	
Immunologic phenomena	
Echocardiographic findings: consistent with IE but do not meet a major criterion as noted above	
Microbiological evidence: positive blood culture but does not meet a major criterion as noted above or serological evidence of active infection with organism consistent with IE	
<i>Diagnosis</i>	
Confirmed	
Two major criteria, one major and three minor, or five minor criteria	
Possible	
Findings compatible with IE which do not meet the criteria for either "confirmed" or "excluded"	
Excluded	
Existence of a substantial alternative diagnosis explaining the symptoms; profile resolves with antibiotic treatment in fewer than four days	

IE: infective endocarditis.

intralobular septal thickening and nodular infiltration in the upper left lobe in addition to pleural thickening, with centrilobular emphysema (Fig. 1). The echocardiogram detected aortic endocarditis with severe aortic regurgitation, mild to moderate pulmonary hypertension secondary to elevated end-diastolic pressure in the left ventricle and an ejection fraction of 50%. The patient underwent a procedure, and radiographic images showed improvement at time of discharge.

Our searches of medical literature turned up only one case of unilateral pulmonary oedema in a patient with acute heart failure due to mitral regurgitation.³ At present, CT is helpful in diagnosing heart conditions, including bacterial endocarditis.⁴ However, this was not the case for our patient, whose radiology images were incompatible with acute pulmonary oedema.⁴ Other peculiarities of this case were the absence of a prior predisposing heart condition and the age and sex, all of which are uncommon in native valve IE. The echocardiography findings plus the appearance of the heart murmur (two of the main Duke-Durack Criteria [Table 1]) enabled us to confirm the diagnosis of IE.^{1,5}

As we see, a unilateral interstitial pattern in the radiology image does not exclude the possibility of pulmonary oedema of cardiac origin.

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Drainage of a Mediastinal Cyst by Endobronchial Ultrasound-Guided Needle Aspiration

Drenaje de quiste mediastínico mediante aspiración con aguja fina guiada por ecobroncoscopia

To the Editor:

Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) has been shown to be highly useful in obtaining samples for lung cancer diagnosis and staging.¹ In addition, it is a diagnostic aid for benign illnesses such as tuberculosis and pulmonary sarcoidosis. We have recently learned that it also has therapeutic uses which include draining mediastinal cysts.^{2,3} We will now present a case in which EBUS-TBNA was used to drain a mediastinal cyst.

A 65-year old male patient with 80 pack year smoking history was examined for left hemiparesis. The axial computed tomography (CAT) scan showed a right parietal space-occupying lesion indicative of cerebral metastasis. The chest radiography revealed a pulmonary mass with well-defined edges in the upper left lobe (ULL). The thoracic/abdominal CAT scan with intravenous contrast showed a pulmonary mass measuring 30×24mm in the ULL and left hilar adenopathies measuring 32×18mm. In addition, there was an image measuring 23×17mm which was morphologically similar to a right superior paratracheal adenopathy, but with a mean density of -7.9 Hounsfield units. The bronchoscopy did not reveal endobronchial lesions. The bronchial aspirate culture and ULL bronchoalveolar lavage were negative for malignancy. Fine-needle transthoracic aspiration of the mass in the ULL provided the cytological diagnosis of adenocarcinoma. EBUS-TBNA was performed on the upper right paratracheal lesion using convex probe endobronchial ultrasound (CP-EBUS) (model BF-UC160F; Olympus; Tokyo, Japan) and we observed an anechoic lesion

measuring 1.48cm with no Doppler flow signal. By puncturing the mass we obtained 5cm³ of yellowish liquid and observed that the lesion had shrunk in size (Fig. 1). The cytological study of the liquid showed a mixed smear with macrophage foam cells compatible with a bronchogenic cyst.

Mediastinal cysts are rare and generally asymptomatic, although they may cause compression and irritation to adjacent structures or become infected or malignant on the inside. In this case they require complete resection by thoracotomy or video-assisted thoracoscopy.^{4,6} Recurrence is frequent when less invasive treatments are used, although when the cyst is collapsed by draining its entire content with EBUS-TBNA, lack of recurrence during up to 18 months has been observed.^{2,3}

In a thoracic CAT scan, bronchogenic cysts appear as round, well-defined masses with low-density homogeneous attenuation similar

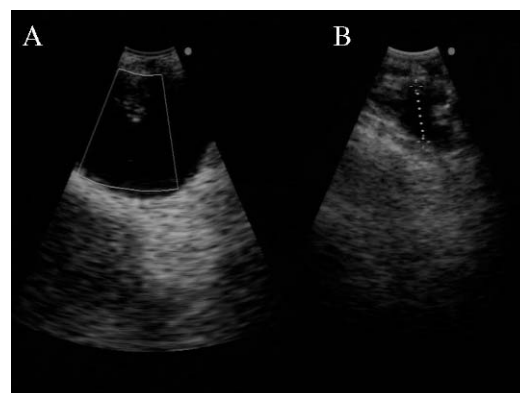


Figure 1. Ultrasound-guided bronchoscopy of the right paratracheal cyst: A) before puncture, in Doppler mode; and B) after draining.