A 62-year-old man was admitted with a four-week history of fever following an aorto-coronary bypass graft. The postoperative chest roentgenogram was normal. His past history included hypertension of 13 years' duration and coronary artery disease commencing three years previously. On examination, his temperature ranged between 37.5° and 38.8°C, a grade 2/6 apical systolic murmur was present, and a few rales were audible over the left lung base. Laboratory tests revealed an erythrocyte sedimentation rate (ESR) of 60 mm/1 hr, hemoglobin of 11.8 g/dl, normal leukocyte count, serum LDH of 556 U/L (normal <320), and serum alkaline phosphatase of 125 U/L (normal <85). Other chemical values were normal. Blood cultures were negative for bacteria and fungi; virologic, rickettsial and serologic studies were all negative. Serial electrocardiograms revealed a stable, diffuse ischemic pattern.

A chest roentgenogram on admission (Fig 1) showed a small infiltrate with probable pleural effusion at the left costophrenic sinus and an infiltrate adjacent to the left cardiac border. A second roentgenogram (Fig 2) three days later revealed a large, round, well-demarcated opacity situated in the posterior mediastinum. The isotopic lung scan demonstrated a perfusion defect at the left base. The echocardiogram was normal.

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**Diagnosis: Postcardiotomy syndrome**

The differential diagnosis of a rapidly developing mass in the posterior mediastinum after cardiac surgery includes: aortic aneurysm, abscess formation, foreign body reaction, and encapsulated fluid. Computerized tomography (CT) of the chest (Fig 3) demonstrated the left pleural effusion and pulmonary infiltrate and, in the posterior mediastinum, a large, round, discrete mass with a density corresponding to fluid. Under CT control, the encapsulated fluid in the posterior mediastinum was aspirated. Laboratory analysis revealed: protein 3.5 g/L, LDH 193 U/L, several mesothelial cells, histiocytes and lymphocytes with no malignant cells; direct smear and subsequent culture of the fluid gave negative results.

The patient initially had been treated with antibiotics without improvement. When the results of the CT and fluid aspirate were obtained, the diagnosis of postcardiotomy syndrome was made and the therapy changed to indomethacin. The fever fell almost at once, the ESR began to decrease, and there was a gradual disappearance of both the left pleural effusion and encapsulated fluid in the posterior mediastinum. Follow-up at eight months revealed an asymptomatic patient in an excellent general condition, with normal roentgenographic and laboratory findings.

The postcardiotomy syndrome occurs shortly after cardiac surgery and is characterized by one or more of the following features: fever, pericarditis, pleuritis and pneumonitis. Occasional fever may be the predominant symptom for several weeks and the presentation may be, as in this case, fever of unknown origin following cardiac surgery.

The unusual roentgenographic features together with the persistent fever created a diagnostic problem in this patient. The CT was very useful in elucidating the fluid nature of the opacity, as well as excluding other, potentially hazardous, conditions. An excellent clinical and roentgenographic response to indomethacin helped to confirm the diagnosis of postcardiotomy syndrome.

**REFERENCES**