



## IMAGES IN THORAX

# Focal pulmonary oedema: an unusual presentation of acute mitral regurgitation

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A 46-year-old man presented with dyspnoea, haemoptysis, orthopnoea and a pan-systolic murmur. His chest radiograph (see figure 1) demonstrated asymmetric pulmonary infiltrates, predominantly affecting the right-upper lobe. He was diagnosed with lobar-pneumonia but failed to improve with antibiotic therapy. Echocardiography subsequently demonstrated severe mitral regurgitation (MR), directed towards the right-upper pulmonary vein, secondary to chordal rupture and flail posterior mitral valve leaflet.

Acute MR secondary to a flail posterior mitral valve leaflet often results in a regurgitant jet directed toward the right (usually upper) pulmonary veins. This results in regionalised increased hydrostatic pressure in these veins. This mechanism is supported by selective pulmonary artery wedge pressure measurements and transoesophageal echocardiographic pulmonary vein Doppler data.

Successful surgical repair of the posterior leaflet (thickened, 'Barlow's' valve) resulted in a dramatic improvement. Unilateral pulmonary oedema (typically right-sided) affects up to 9% of acute MR presentations. Physicians should be aware of this since cases are commonly mistaken for pneumonia.

Other causes of unilateral pulmonary infiltration include pulmonary infarction, pneumonia, malignancy, alveolar haemorrhage, aspiration pneumonitis, foreign body, atelectasis and pulmonary vein obstruction.

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**Figure 1** Chest radiograph demonstrating alveolar infiltration of the right lung, predominantly of the upper lobe.