IMAGES DAY TO DAY

Extensive Pulmonary Thrombosis

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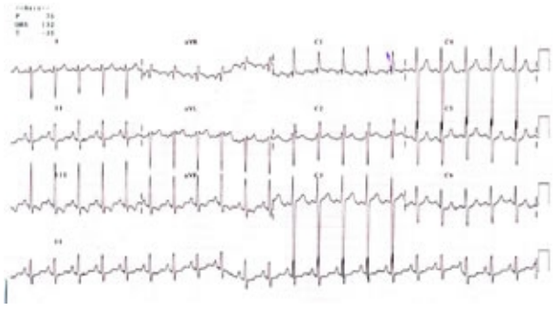
Introduction

31-year old male presented with progressively increasing breathlessness of 10 days duration. On examination, he was tachypneoic. Blood pressure was 104/70 mm of Hg. Jugular venous pressure was raised & patient was in right heart failure. P2 was loud suggesting pulmonary hypertension. ECG revealed sinus tachycardia (rate-104), P pulmonale wave in lead II (amplitude-3mm;0.3mV) S1Q3T3 pattern & right bundle branch block (Fig.1).



X ray chest revealed left hilar prominence (Fig. 2). CT chest revealed extensive thrombus in the main & right pulmonary artery branches (Fig. 3, Point 1).

Pulmonary angiography confirmed a filling defect
t 1), occlusion of
oint 2), peripheral
f the descending
occlusion of the
r lobe. Pressure
angiography was

not reveal any
igations showed
the cause of

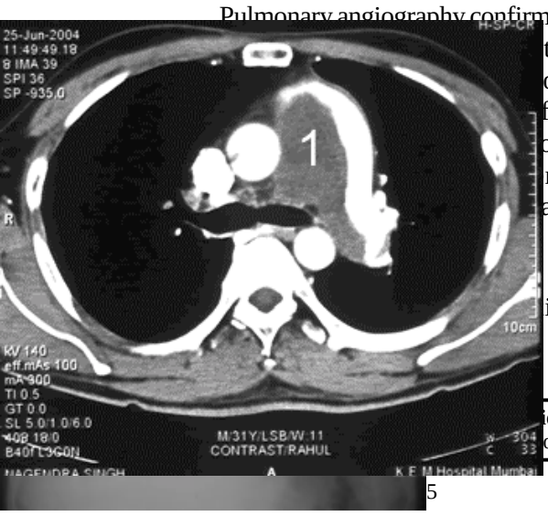


Fig. 2. X-ray chest showing left hilar prominance

Fig. 3. CT-chest showing extensive thrombus in the main and pulmnory artery branches

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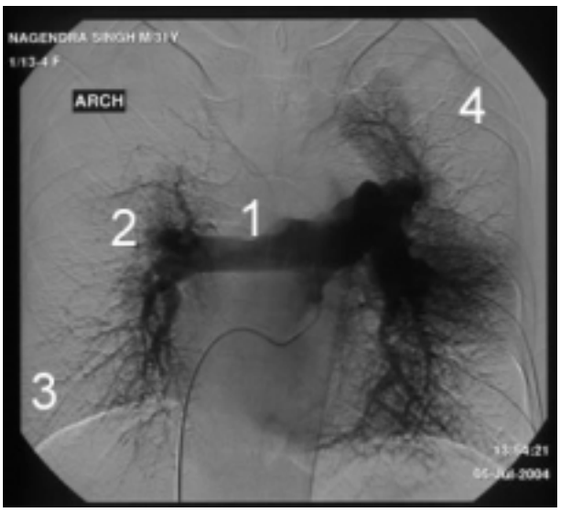

Fig. 4. Pulmonary angiography

Discussion

Diagnostic workup of a suspected Pulmonary embolism (PE) has always been an area of interest. Role of the ECG as an independent marker for the diagnosis, severity and prognosis of PE is limited (1). ECG findings can be extremely variable, with poor sensitivity and specificity & it may be normal in up to 27% of the patients (2). The "classical" $S_1Q_3T_3$ ECG pattern that is considered pathognomonic for acute PE has also been shown to be of limited value; being equally prevalent in patients with and without pulmonary emboloism (3).

CT (Helical and electron-beam) Pulmonary Angiography has been a promising development with 90% sensitivity (range, 60%-100%) and 90% specificity (range, 80%-100%) in the diagnosis of proximal (main, lobar, and segmental arteries) PE (4). However, it is less accurate in imaging peripheral emboli in the subsegmental arteries taking the overall sensitivity to 53% - 100%, and specificity to 75-100% (4).

Conventional pulmonary angiography remains the gold standard for the diagnosis of pulmonary embolism.

Thus, strong clinical suspicion with ECG to rule out other causes like myocardial infarction followed by specific investigations like CT pulmonary angiography or conventional pulmonary angiography can clinch the definitive diagnosis of pulmonary embolism.

References

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