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IMAGES IN CARDIOLOGY

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Diagnosing chest pain: characteristic ECG changes in acute pericarditis

A 43-year-old man was admitted with a history of central chest pain for 4 days after a lung biopsy. He reported a pressure-like sensation radiating up to his neck with increased intensity for the last day. An ECG showed normal sinus rhythm. The most striking finding was a diffuse ST-segment elevation seen in precordial leads. He was admitted under observation for exclusion of acute coronary syndrome and was treated accordingly. Looking closely at lead 2, V2–V6 the PR segment is depressed up to 1 mm as compared with the isoelectric baseline before the P wave and there is also ST-segment depression in lead aVR (panel). These ECG changes are consistent with acute pericarditis.

Of note, serial cardiac enzymes were normal and inflammatory markers were raised. He was treated with non-steroidal anti-inflammatory drugs, with good response. A transthoracic echocardiogram was normal.

PR segment depression in pericarditis is thought to be due to atrial wall injury.

Later in the course of pericarditis the T waves can become inverted. This needs to be differentiated from early repolarisation, a normal variant where the PR segment is not depressed. ECG changes of acute pericarditis mimic acute myocardial infarction and the ECG should be reviewed carefully to avoid misdiagnosis and wrong treatment. In acute myocardial infarction, the ST-segment elevation is localised to the distribution of the affected coronary artery.

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