## JULY ANSWERS

### QUESTIONS

1. What are the major abnormalities on the ECG?
   a. ST depression
   b. Diffuse ST elevation
   c. Atrial fibrillation

2. What is your diagnosis?
   a. Acute myocardial infarction
   b. Atrial fibrillation
   c. Pericarditis

3. What investigations would you arrange?
   a. Blood tests for troponin levels
   b. Echocardiogram
   c. CT coronary angiogram
   d. Serial ECG monitoring

4. What is the underlying cause?
   a. Viral infection
   b. Atherosclerosis
   c. Auto-immune response

5. What is the treatment?
   a. Antibiotics
   b. Thrombolytics
   c. Anti-viral treatment
   d. NSAIDs

### ANSWERS

1. B  2. C  3. All are correct  4. A  5. D

The most striking feature of this ECG is the diffuse ST elevation in the inferior and anterolateral leads. With this abnormality, the most important diagnosis to exclude first is acute ST elevation myocardial infarction. However, this young patient has no significant coronary risk factors and this makes the diagnosis of myocardial infarction much less likely. Troponin levels and the wall motion study by echocardiogram would give a hint to the diagnosis immediately. If both are negative, the possibility of myocardial infarction is much smaller. The coronary status can then be further studied with a CT coronary angiogram, which is a non-invasive test.

Viral pericarditis is an important cause of diffuse ST elevation. It is often due to coxsackieviruses and echoviruses. Young males are most commonly affected and the condition often follows upper respiratory infections. The diagnosis is usually clinical and by exclusion of other major causes. Rising viral titers in paired serum may be useful for confirmation. Sometimes cardiac enzymes may be slightly raised but gross derangement is uncommon.

Treatment is, in general, symptomatic. High dose aspirin (650 mg Q4H) or other NSAIDs (such as indomethacin 25–50 mg tds) are often effective. Corticosteriods may be useful in unresponsive cases. Symptoms usually subside in several days to weeks. The major early complication is tamponade due to pericardial effusion as a result of the pericardial inflammation, which occurs in <5% of cases. There is a higher risk of this, particularly if thrombolytic therapy is administered due to an incorrect diagnosis of acute myocardial infarction. Rarely, recurrent, chronic pericarditis may be seen in some patients, sometimes leading to constrictive pericarditis, where pericardial resection may be required.