



### Acute pericarditis

Inflammation of the pericardium is commonly idiopathic or due to infection. Frequent pathogens identified include the viruses Coxsackie A & B, echovirus, adenovirus, mumps and Epstein–Barr. However, the range of aetiological triggers is wide and includes bacteria (e.g. streptococcal and staphylococcal species), rheumatic diseases, neoplasms, uraemia and myocardial infarction.

The clinical syndrome is characterized by chest pain (retrosternal, radiating to the arms and shoulders and typically eased by sitting forward) and a pericardial friction rub (scratching, scraping sound heard throughout the cardiac cycle).

Electrocardiogram abnormalities are seen in 90% of cases and typically progress through four distinct stages. Stage 1 is ST segment elevation, which is concave upwards, or 'saddle-shaped'. This pattern is seen in all the leads except V<sub>1</sub> and AVR. Stage 2 is resolution of the ST segment. Stage 3 is widespread T wave inversion and Stage 4 is T wave resolution. Depression of the PR interval occurs in 50% of cases and is caused by atrial inflammation. It often appears in the early stages and is regarded as a pathognomonic feature of pericarditis. The ECG changes of pericarditis can be confused with those of acute myocardial infarction. However, pericarditic changes tend to be global, have no reciprocal ST depression and are not associated with loss of R wave amplitude or Q wave formation.

The chest X-ray is often normal but echocardiography may reveal the presence of a small pericardial effusion, which may lead to tamponade in 15% of cases. Management is symptomatic with bed rest and anti-inflammatory analgesics. In most cases the disease is self-limiting. Recurrence and constrictive pericarditis are the most common complications.

### Pericardial effusion

The development of an effusion in the pericardial space may occur with any inflammation of the pericardium. Effusions are often asymptomatic but, if large or rapidly collecting, an effusion may lead to raised intrapericardial pressure and cardiac tamponade (hypotension, pulsus paradoxus and an elevated JVP). Small-voltage complexes are often seen on



**Fig. 120** Early changes of pericarditis (widespread saddle-shaped ST elevation).



**Fig. 121** Late changes in same patient (widespread T wave inversion).



**Fig. 122** Chest X-ray in patient with large pericardial effusion.



**Fig. 123** Two-dimensional echocardiogram showing pericardial effusion.