Dressler's Syndrome

Description
This is a late-onset post-myocardial infarction pericarditis, usually occurring one to six weeks after the initial event, although it can be delayed for as long as three months. See also the separate Complications of Acute Myocardial Infarction and Acute Pericarditis articles.

Dressler's syndrome was first described in 1956. It is characterised by pleuritic chest pain, low-grade fever and pericarditis (autopsy shows localised fibrinous pericarditis), which may be accompanied by pericardial effusion. It tends to follow a benign clinical course. It is thought to be immune-mediated (anti-myocardial antibodies may be present, although it is not known whether these are the cause of the syndrome or occur as a result of it[1]). The reported incidence has been declining in recent years.

It is one of a heterogeneous group of conditions collectively known as post-cardiac injury syndrome (PCIS), which together represent a leading cause of pericarditis[2]. PCIS includes Dressler's syndrome (late-onset pericarditis following myocardial infarction (MI)), early-onset pericarditis following MI, post-cardiotomy syndrome and post-traumatic pericarditis. Post-pericardiotomy syndrome has been observed after cardiac surgery, percutaneous intervention, pacemaker implantation, radiofrequency ablation and pulmonary vein isolation[3, 4].

Epidemiology
The original paper by Dressler in 1956 suggested an incidence of 3-4% of all cases of acute MI[5]. It is now much rarer, probably due to modern methods of management of an acute MI, occurring in fewer than 1% of cases, with some studies suggesting it has disappeared altogether[2, 6, 7]. The reduction may be due to the fact that active intervention reduces the size of the infarct and therefore the area of damaged myocardium.

Risk factors
If a person has had a previous episode, it is more likely to recur. It seems more likely to occur after a large infarct. Other risk factors which have been suggested include viral infections, younger age, prior treatment with prednisone, B negative blood type, and use of halothane anaesthesia[1].

Presentation
- It usually presents one to six weeks after the initial episode of MI, with pain and fever that may suggest further infarction.
- The pain is the main symptom, often in the left shoulder, often pleuritic, and worse on lying down.
- There may be malaise, fever and dyspnoea.
- Rarely, it may cause cardiac tamponade or acute pneumonitis.
- A pericardial friction rub may be heard. The typical sound of pericarditis is described as like the sound of boots walking over fresh snow.

Differential diagnosis
The pain may initially suggest a further episode of angina or MI. Pleuritic chest pain may also suggest pneumonia or pulmonary embolism.

Investigations[6]
- FBC will show leukocytosis, sometimes with eosinophilia and an elevated ESR/CRP.
- Serology may show heart autoantibodies.
- Blood cultures will help in excluding an infectious cause of pericarditis.
- ECG usually shows ST elevation in most leads with or without reciprocal ST depression.
- Echocardiography shows pericardial effusion and helps to exclude other causes for symptoms.
- MRI scan may show an effusion where this is difficult to assess by echocardiography.
- CXR may be normal or may show pleural effusions, parenchymal opacities, or an enlarged cardiac silhouette.

Management[2, 6]
- Aspirin may be given in large doses, 750-1000 mg eight-hourly for two weeks before tapering down. Monitoring of renal and cardiac function, and consideration of co-prescription of proton pump inhibitors (PPIs), are recommended.
- Other non-steroidal anti-inflammatory drugs (NSAIDs) are used in some cases, or corticosteroids may be used if symptoms are refractory or recurrent, or if NSAIDs are contra-indicated. Steroids are particularly valuable where severe symptoms have required pericardiocentesis, and when infection has been excluded.
- Colchicine in addition to NSAID helps to prevent recurrence and improve response.
If there is significant pericardial effusion then pericardiocentesis, involving aspiration of the fluid, may be required to relieve the constriction on the heart.

Complications
- Pleuritic pain may be associated with pleurisy and pleural effusion.
- Significant pericardial effusion can cause cardiac tamponade.
- Inflammation can result in constrictive pericarditis.

Prognosis
It can follow a relapsing course but the outcome is usually favourable, depending on the nature and severity of co-existing heart disease. Response to treatment is generally good within two weeks. Follow-up with echocardiogram is advised - for example, at one and three years, due to the risk of pericardial constriction.[2]

Prevention
Prevention is no longer needed now that modern management of myocardial infarction has resulted in a reduction in the incidence of this syndrome.

Further reading & references
1. Foris LA Khaddour K; Dressler Syndrome
6. 2015 ESC Guidelines for the diagnosis and management of pericardial diseases; European Society of Cardiology (August 2015)

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