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CASE REPORT

A 79-year-old woman with dysphagia

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Introduction

Pericardial effusion is the accumulation of fluid in the pericardial sac, often as a result of systemic or cardiac disease. This article describes a 79-year-old woman with isolated pericardial effusion and a new diagnosis of rheumatoid arthritis presenting with an unusual symptom of dysphagia.

Discussion

Chronic pericardial effusions may lead to slow but significant effusions, amounting to more than 1 litre, that result in no significant haemodynamic effects or symptoms. The prolonged onset of accumulation allows adequate time for the pericardium to stretch and accommodate the increased volumes, until the point where further accumulation could lead to cardiac tamponade (Buhumaid et al, 2019). As in this case, the pericardial effusion is likely to have accumulated over many months. Cases have been reported of patients with pericardial effusion which present with dysphagia, on a background of malignancy

Case report

A 79-year-old woman presented with a 6-month history of progressively worsening dysphagia, lethargy, 3 kg weight loss and minimal breathlessness on exertion. She denied any chest pain or palpitations. Her past medical history included asthma, osteoarthritis and hypercholesterolaemia. She denied any recent foreign travel. On examination her chest was clear, both heart sounds were quiet but audible with no added sounds or murmurs, her jugular venous pressure was not raised and she did not have peripheral oedema. Given her symptoms, she was referred for an upper and lower gastrointestinal endoscopy, which were both normal. Following this, a computed tomography scan of the chest, abdomen and pelvis was performed that showed no evidence of overt malignancy but demonstrated a large pericardial effusion compressing the oesophagus.

She was then admitted under the cardiology team for further review. On admission her blood pressure was 135/75 mmgHg and heart rate was 75 beats per minute. Her blood tests showed she had a haemoglobin of 105 g/litre (normal range 115–151 g/litre), white cell count of $7.8x10^9$/litre (normal range $5.1–11.4x10^9$/litre), C-reactive protein level of 79 mg/litre (normal range 0–10 mg/litre), with normal kidney, liver function and viral screen (including HIV and hepatitis B/C). Her troponin level was normal and her brain natriuretic peptide level was 250 pg/ml (normal range <100 pg/ml). She was also anti-neutrophil cytoplasm antibody (ANCA) and anti-CCP (citrullinated protein) positive, with an erythrocyte sedimentation rate of 100 mm/hr (normal range 0–30 mm/hr). An electrocardiogram was performed that showed normal sinus rhythm with low voltage complexes (Figure 1). An echocardiogram demonstrated a normal ejection fraction, with a large pericardial effusion measuring 3 cm adjacent to the right atrium and 2.1 cm adjacent to the left atrium and left ventricle. There was no tamponade physiology seen, although some restriction to right ventricle filling was observed. During her admission, she became hypotensive, so was transferred to a cardiac tertiary centre for immediate pericardiocentesis.

The drained pericardial fluid showed exudative fluid with dense macrophages and lymphocytes. Her pericardial fluid culture was equivocal for tuberculosis and cytology did not demonstrate any malignant cells. However, her tuberculosis ellispot and sputum acid-fast bacillus test were negative three times. Given these findings and clinical history, anti-tuberculosis medications were started. Post-pericardiocentesis her dysphagia completely resolved. After completing a course of anti-tuberculosis medications, she was reviewed by the rheumatology team and following a multidisciplinary team discussion her anti-tuberculosis medications were stopped. She was diagnosed with rheumatoid arthritis and it was felt that this was likely contributing to her loculated pericardial effusions. She was subsequently discharged with a view to starting disease-modifying anti-rheumatic drugs.

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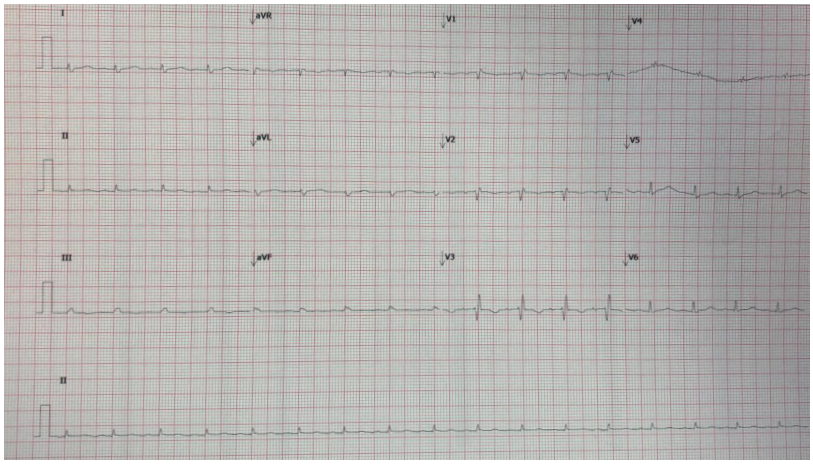

Figure 1. Admission electrocardiogram showing sinus rhythm with small complexes.

and post-implantable cardioverter defibrillator implantation iatrogenic complications (Chauhan et al, 2012; Burazor et al, 2013). Further tests including pericardial fluid analysis demonstrated an exudative effusion and an equivocal culture. Given the patient's age and clinical history she was treated for presumed pericardial tuberculosis. The incidence of pericardial tuberculosis in high income, low tuberculosis settings such as the UK is rising and usually presents as isolated pericardial disease (Sundaralingam et al, 2019), as seen in this case. Pericardial tuberculosis can present with non-specific symptoms including chest pain, weight loss and breathlessness, often mimicking heart failure (Schrire et al, 1959).

In cases of effusions that are caused by inflammatory disorders such as rheumatoid arthritis, non-steroidal anti-inflammatory medications, colchicine and, in some cases, steroids can be used to help reduce the size of the effusion (Imazio et al, 2010). However, in cases of life-threatening pericardial effusions leading to cardiac tamponade the gold standard is pericardiocentesis in a specialised cardiac unit, sometimes followed by the surgical consideration of a pericardial window to prevent re-accumulation. In this case, post-pericardiocentesis the patient was started on anti-tuberculosis therapy. At 3 months follow up, large volumes of pericardial fluid had not re-accumulated and she was asymptomatic. Disease-modifying anti-rheumatic drugs were going to be started to control her rheumatoid arthritis and prevent further re-accumulation of pericardial effusion.

Conclusions

This article describes a unique case of pericardial effusion causing dysphagia. Given the wide array of symptoms, pericardial effusion manifesting as dysphagia should be considered as another symptom if the effusion is large enough to cause compression of the oesophagus.

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Learning points

- Dysphagia can be considered as an additional symptom of pericardial effusion.
- Pericardial fluid analysis is important to confirm a diagnosis of pericardial tuberculosis.
- Rheumatoid arthritis is a possible cause of pericardial effusion in older patients.

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