CASE REPORT

Cardiac tumour masquerades as mid-life (menopause) event

Gareth J Rosser, Emily F Goode, Faezah Godazgar, Simon William Dubrey

Department of Cardiology,
Hillingdon Hospital, Uxbridge,
Middlesex, UK

Correspondence to
Dr Simon William Dubrey,
simon.dubrey@thh.nhs.uk

SUMMARY

Atrial myxomas are the most common primary cardiac tumours encountered. Their detection may be incidental, owing to embolic events, intracardiac obstructive features or in some cases, non-specific constitutional symptoms. We describe a middle-aged woman attributing constitutional symptoms to menopause, but later determined to be due to an atrial myxoma.

BACKGROUND

Myxomas are the most common cardiac tumours but are not a frequent clinical encounter. This case was unusual, in that the symptomology was constitutional upset, mistaken for an exacerbation of her menopausal phase.

CASE PRESENTATION

A 53-year-old woman presented with a 12-month history of hot flushes and paroxysmal sweats, which she attributed to menopause. Over 3 weeks her general malaise had increased, culminating in 2 days of fever, rigours and more pronounced nocturnal sweats.

On admission, she looked well but was tachycardic at 100 beats/min. The blood pressure was 119/80 mm Hg and auscultation of the heart and lungs was unremarkable.

INVESTIGATIONS

Blood results showed haemoglobin 11.0 g/dl, white cell count $19.5 \times 10^9/l$ (neutrophils $17.9 \times 10^9/l$) and platelets $248 \times 10^9/l$. Renal, hepatic and thyroid

functions were normal, and glucose 4.4 mmol/l. C reactive protein (CRP) was elevated at 108 mg/l.

Chest radiograph was normal. The ECG showed sinus tachycardia at 104 beats/min. An echocardiogram revealed a 2.8 cm diameter left atrial mass (figure 1A,B), suggestive of an atrial myxoma.

CT scans of the chest, abdomen and pelvis revealed an incidental pelvic fibroid, mediastinal and abdominal lymphadenopathy and a 2 cm diameter mass in the left atrium (figure 2A).

Cardiac MRI (figure 2B) was also performed as part of a preoperative work-up.

TREATMENT

Surgical excision of the mass was uneventful and subsequent histological examination confirmed a benign myxoma.

OUTCOME AND FOLLOW-UP

Following surgery there was an immediate resolution of her fever and 'menopausal' symptoms and for 24 months she has remained well.

DISCUSSION

In this case the echocardiogram was ordered because of the elevated inflammatory markers (CRP at 108 mg/l) and persistent fever which raised the possibility of endocarditis. Following the discovery of a mass within the atrium, further imaging using CT and MRI techniques was used to characterise the 'tumour' and to inform the surgeons.

Atrial myxomas are the most common primary cardiac tumours encountered. They are almost exclusively found within the left atrium and show a

Figure 1 (A) Echocardiographic parasternal long axis view showing a mass (arrows) occupying part of the left atrium. (B) On the four-chamber view the mass is seen adjacent to the interatrial septum (arrows).

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Figure 2 (A) CT scan of the thorax showing a mass (white arrows) within the left atrium. (B) Cardiac MRI scanning further delineates this circular mass with a diameter of 2.8 cm.

predilection for the interatrial septum.^{1 2} Typically, a myxoma presents with symptoms similar to that of mitral stenosis (breathlessness or palpitations and rarely a tumour 'plop' on auscultation) owing to obstruction of the valve. Clot or tumour, shed from the tumour mass, can cause myocardial infarction, stroke or other systemic emboli. In rarer cases of right-sided myxomas, pulmonary emboli may occur.

Reports indicate that non-specific constitutional symptoms, of the type we describe (fever, sweating, lethargy, weight loss and general malaise) may be the presenting features in between a third to almost 92% of cases.^{1 3 4} The release of interleukin-6 by cardiac myxoma cells is described as responsible for the immunological features described.^{3 5} Interleukin-6 is a multi-functional immunoregulatory cytokine that is involved in B-cell differentiation, T-cell activation, acute phase response and haematopoiesis. Stimulation of the immunoregulatory system may thus produce symptoms and inflammatory responses, including elevated CRP and erythrocyte sedimentation rate, hypergammaglobulinaemia, fever, autoantibodies and elevated white cell count, similar to those of a true autoimmune disease, in this case misinterpreted as being due to the menopause.

Most authors agree that systemic (constitutional) symptomology correlates to the size of the tumour and level of interleukin-6 and to a left heart location.^{6 7}

The high risk of embolic disease and haemodynamic compromise causing syncope, and occasionally death, is the driver to urgent surgical excision, in those fit enough.

In our case we describe a rare condition, but with common and non-specific presenting symptoms. We suggest vigilance when investigating women of menopausal age presenting with an exacerbation of symptoms.

A final consideration is that myxomas, although usually sporadic, may be familial and screening of close relatives is advised.⁸

Learning points

- ▶ Myxomas may present with constitutional symptoms of the type we describe (fever, sweating, lethargy, weight loss and general malaise).
- ▶ The release of interleukin-6 by cardiac myxoma cells is likely to be responsible for the immunological features described.
- ▶ Myxomas may be hereditary and family screening may be appropriate.

Competing interests None.

Patient consent Obtained.

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