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BRIEF COMMUNICATION

Intracardiac Leiomyomatosis – an Unusual Cause of Syncope in a Middle-Aged Woman

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Intracardiac leiomyomatosis is a rare complication that occurs when a uterine leiomyoma (fibroid) undergoes vascular invasion and propagates within the inferior vena cava to reach the right atrium. This article describes a case of intracardiac leiomyomatosis in a middle-aged woman, exploring the presentation, diagnosis and surgical management of this condition. In this case the presenting complaints were syncope and atrial fibrillation, illustrating the importance of performing a transthoracic echocardiogram in patients presenting with their first episode of atrial fibrillation. Clinicians should consider intracardiac leiomyomatosis when evaluating women with right heart masses, especially those with a history of uterine leiomyomas.

Keywords Intracardiac leiomyomatosis • Intravenous leiomyomatosis • Syncope • Atrial fibrillation • Cardiac tumour

Case Report

A 43-year-old female passenger in a car presented to hospital after experiencing a sudden onset of acute dyspnoea followed by a syncopal episode lasting 30 seconds. She regained consciousness spontaneously without a change in posture. There was no associated seizure activity, no faecal or urinary incontinence, no tongue biting and no post-ictal state. A similar syncopal episode occurred whilst monitored in hospital. An electrocardiogram at the time showed atrial fibrillation, with rapid ventricular response to 180 beats/min, reverting back to sinus rhythm 90 seconds later without intervention. Physical examination was unremarkable.

The patient reported no notable preceding illnesses or symptoms, including chest pain or palpitations. She denied previous syncope. Her past medical history was significant for recent embolisation of uterine fibroids (leiomyomas), polycystic ovarian syndrome, and depression. Her medications included a combined oestrogen/progesterone oral contraceptive agent and fluoxetine. Her family history included a sister having recent electrophysiological ablation procedure for the treatment of ventricular tachycardia.

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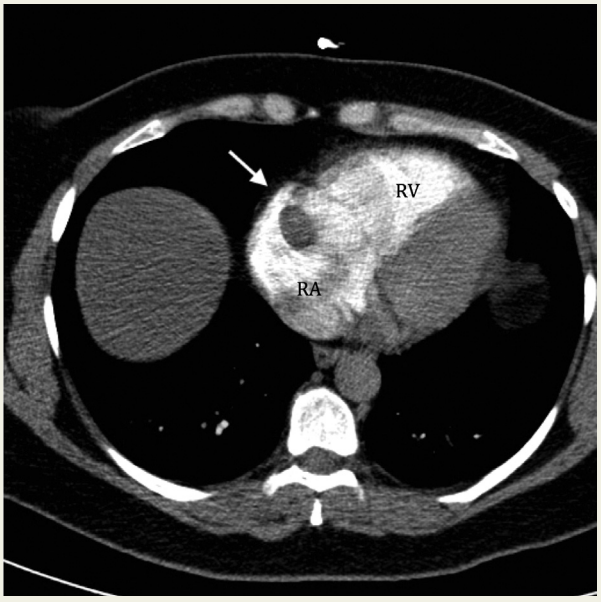

Figure 1 CT Pulmonary Angiography image demonstrating a right atrial hypodensity.
RA- right atrium, RV- right ventricle.

An electrocardiogram showed sinus rhythm without ST segment changes or T-wave inversion. An initial troponin I level was undetectable. A D-dimer assay was elevated (0.97 mg/L). A chest x-ray showed no abnormalities. Cardiothoracic pulmonary angiography did not demonstrate a pulmonary embolus, but did indicate a hypodensity in the right atrium (Figure 1).

Transthoracic echocardiography demonstrated a large mobile cord-like mass within the right atrium, prolapsing through the tricuspid valve into the right ventricle (Figure 2).

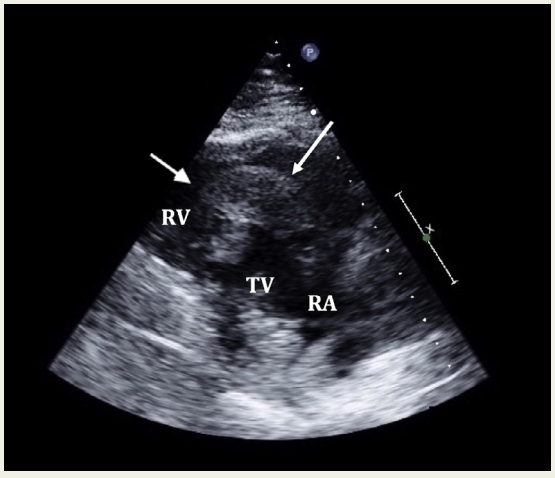

Figure 2 Transthoracic echo showing a large cord-like mass prolapsing through the tricuspid valve RA - right atrium, RV- right ventricle, TV- tricuspid valve.

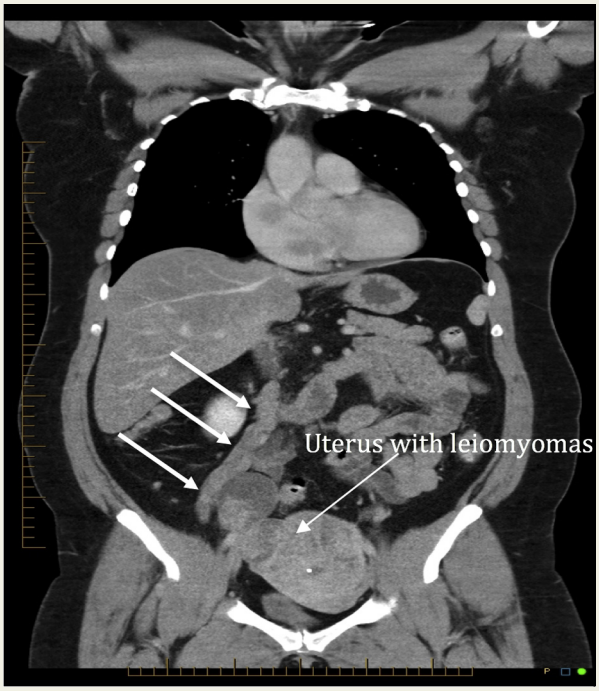

Figure 3 CT scan showing mass in dilated right ovarian vein and uterine leiomyomas.

A subsequent transoesophageal echocardiogram showed the mass extending from the inferior vena cava into the right heart chambers. Ultrasound scan of the lower limb venous system was negative for deep venous thrombosis.

Further imaging, with CT and MRI, revealed that the mass originated in the uterus before invading into the right ovarian vein, extending intravenously along the inferior vena cava into the right heart chambers (Figures 3–5). An FDG PET scan did not show any evidence of metastatic disease.

A surgical team comprising a cardiac surgeon, vascular surgeon and gynaecologist, undertook a one-stage removal of the mass (Figure 6) during which the patient was placed on

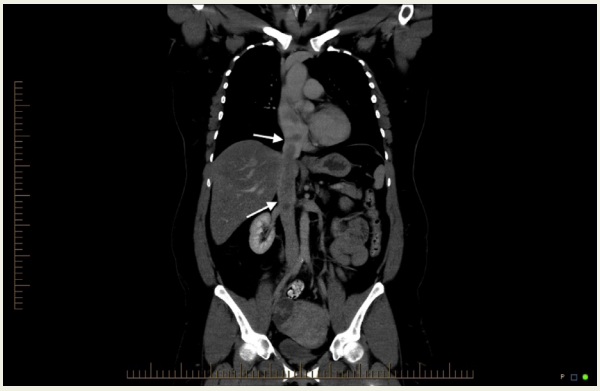

Figure 4 CT scan showing the mass extending the length of the IVC to the right heart.

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