

# **Right atrial malignant melanoma detected by routine CT surveillance and confirmed with contrast echocardiography.**

## **Clinical Case Portal**

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## **Case Report**

An asymptomatic patient with a history of skin malignant melanoma had a right atrial mass detected on a routine surveillance CT scan. This was confirmed on transthoracic contrast echocardiography. Transthoracic echocardiography has a limited sensitivity and can miss small intraatrial masses. However, sensitivity can be improved by the addition of contrast, as demonstrated in this cases.

Patient history prior to current observation :

An asymptomatic 54 year-old gentleman with a history of skin melanoma with lymph node metastasis excised 5 years earlier, was found to have a right atrial tumour on annual surveillance CT scanning (fig. 1).

Clinical findings on admission, evolution and outcome :

Subsequent imaging with contrast echocardiography imaging confirmed a right atrial mass extending into the inferior vena cava (fig. 2). The tumour measuring 3.0x2.0x1.3cm was completely excised and had a firm creamy white appearance macroscopically. Microscopic appearance and immunohistochemical stains confirmed metastatic malignant melanoma with a relative paucity of melanin pigment (fig. 3).

## Discussion

Melanoma has the greatest propensity to metastasise to the heart than any other solid tumour. It does so, predominantly, by haematogenous spread. The right atrium is the commonest site of melanoma metastases within the heart, although left atrium and the right ventricle are other sites. Cardiac involvement is rarely identified ante mortem but is found in over half of melanoma sufferers at autopsy. Early diagnosis is hampered because patients are often asymptomatic or their symptoms are non-specific. Arrhythmia remains the most common clinical presentation, although tamponade, outflow tract obstruction, congestive heart failure and embolic phenomenon are well recognised.

## Conclusion

Transoesophageal echocardiography remains the most sensitive investigation for the diagnosis of intracardiac masses. Transthoracic echocardiography is less sensitive and can miss intraatrial masses, although sensitivity can be improved by the addition of contrast, as demonstrated in this cases. Spiral CT scan using dynamic contrast enhancement of surrounding blood also aids intracardiac mass detection. This is often the imaging tool of choice used to screen oncology patients. Cardiac magnetic resonance (CMR) imaging has a role in imaging cardiac masses and T1- weighted CMR produces particularly clear, high signal images of melanomas, due to the paramagnetic properties of melanin. However, as in our case, scant melanin pigmentation or amelanotic melanomas may produce lower signal intensity images.

## References

Ellis CJ, Dennison EM, Simpson IA. Imaging of cardiac metastatic melanoma: transoesophageal echocardiography or magnetic resonance imaging? *Int J Cardiol* 1993; 41:176-9

Fig. 1 :  
[Right atrial malignant melanoma - Spiral CT scan](#)

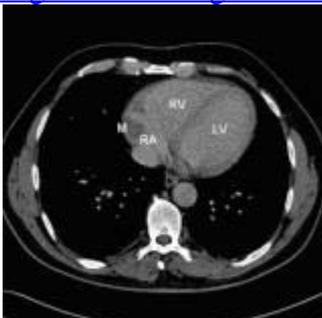


Fig. 2 :

[Right atrial malignant melanoma - 2D trans-thoracic contrast echo](#)

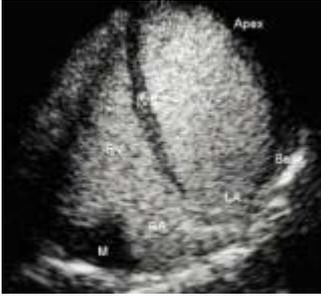


Fig. 3 :

[Right atrial malignant melanoma - Histological section](#)

