



What's that in the Right Atrium?

Tom Kai Ming Wang^{1,2}, Niels van Pelt¹

1. Department of Cardiology, Middlemore Hospital, Auckland, New Zealand

2. Green Lane Cardiovascular Service, Auckland City Hospital, Auckland, New Zealand

Corresponding author:

Tom Kai Ming Wang

Address: Auckland City Hospital 2 Grafton Road, Grafton, Auckland 1023, Auckland

Email: twang@adhb.govt.nz

Highlights

We present an interesting case of a middle-aged male patient with a recent diagnosis of diffuse large B-cell lymphoma, who underwent a staging CT scan that revealed hypoattenuated lesions in the right atrium initially suspicious of thrombi. They were not evident on transthoracic echocardiography, but the transesophageal echocardiogram showed a large mobile mass infiltrating and extending the right atrium, interatrial septum and aortic root. This case further illustrates the excellent sensitivity and specificity of transesophageal echocardiography for intracardiac masses but also the importance of multimodality cardiac imaging to reach a diagnosis and guide management.

Keywords: right atrium, tumor, transesophageal echocardiography, computed tomography

Citation: Wang TKM, van Pelt N. What's that in the right atrium? International Cardiovascular Forum Journal. 2019;16:38-39. DOI: 10.17987/icfj.v16i0.569

Case

A fifty-seven year old Polynesian man, with a background of hypertension, peptic ulcer, slipped vertebral disc operation and previous smoker, presented with a six month history of abdominal pain, weight loss and early satiety. Computed tomography (CT) of the abdomen suggested a diffuse neoplastic process with mesenteric, left pelvic wall, bladder and widespread peritoneal nodular masses. Ultrasound-guided biopsy of a peritoneal mass in the right upper quadrant confirmed diffuse large B cell lymphoma. Staging CT was undertaken, with the CT chest showing hypoattenuating masses within the right atrium, felt suspicious to be thrombus (figure 1a). Transthoracic echocardiogram (TTE) could not identify any masses within the right atrium, so transesophageal echocardiogram (TOE) was performed. This showed a large mobile mass 4.3x2.7cm arising from the superior aspect of the interatrial septum protruding into the right atrium, and infiltrating through the septum and around the posterior aortic root, suggestive of metastatic tumour (figure 1b-d). Chemotherapy with curative intent was initiated by the haematology service, however disease and symptom burden progressed after two cycles, therefore chemotherapy was ceased for palliative management.

Discussion

Imaging options for investigating intracardiac lesions includes TTE, TOE, CT and cardiac magnetic resonance imaging (MRI). In this case, the TOE brought clarity to the right atrial mass as tumour rather than thrombus, so anticoagulation was not indicated. It added to the adverse prognosis considerations for the patient. TOE has excellent sensitivity and specificity

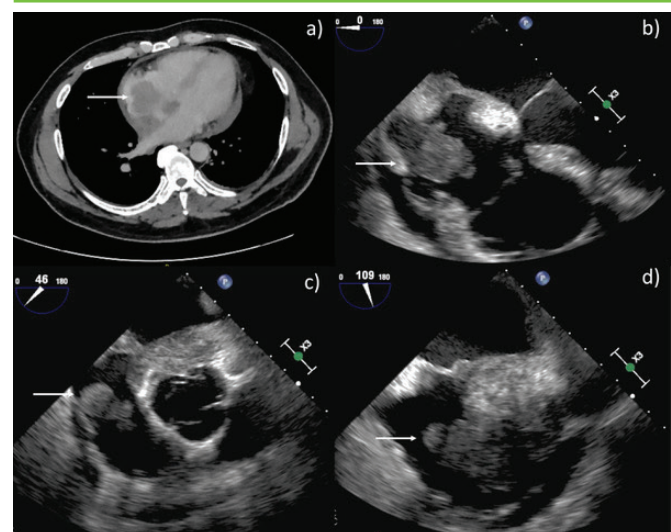


Figure 1. Intracardiac mass seen on a) computed tomography, and transesophageal echocardiogram at mid-oesophageal b) modified 4-chamber view, c) aortic valve short axis view and d) 109 degrees bicaval view.

for cardiac masses, superior to TTE and as illustrated here and some studies compared to CT and MRI [1]. Nevertheless a multimodality imaging approach is frequently required for diagnosis and guidance on subsequent management strategy.



Declarations of Interest

The authors declare no conflicts of interest.

Acknowledgements

The authors state that they abide by the “Requirements for Ethical Publishing in Biomedical Journals” [2].

References

1. Engberding R, Daniel WG, Erbel R, et al. Diagnosis of heart tumours by transesophageal echocardiography: a multicentre study in 154 patients. European Cooperative Study Group. *Eur Heart J.* 1993;14:1223-8.
2. Shewan LG, Coats AJS, Henein MY. Authors' Responsibilities and Ethical Publishing. *International Cardiovascular Forum Journal* 2018;13:3-4, DOI: 10.17987/icfj.v13i0.525