

Image of the month: Rapidly evolving mitral stenosis: an unusual case of endocarditis

Authors: David McBriar,^A Aileen Kearney^B and Ben Cole^C

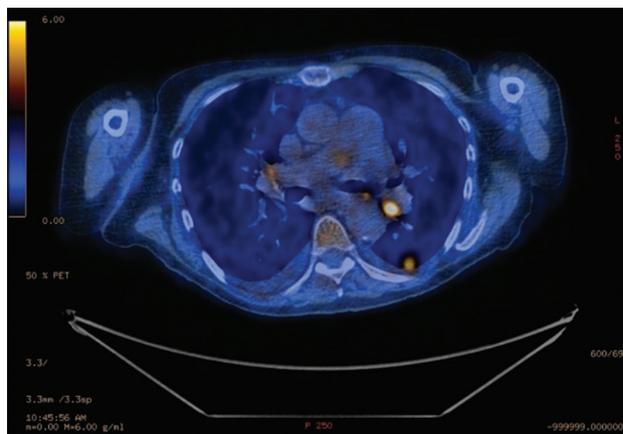


Fig 1. Positron emission tomography – computed tomography showing the primary sub-pleural nodule and mediastinal lymph nodes.

KEYWORDS: Marantic, endocarditis, mitral, stenosis

DOI: 10.7861/clinmed.2020-0060

Case presentation

A 72-year-old woman was admitted with increasing dyspnoea. She had a background of mitral regurgitation, atrial fibrillation (for which she was anticoagulated with apixaban), chronic obstructive pulmonary disease and primary hyperthyroidism. Computed tomography revealed an 11 mm sub-pleural nodule in the left lower lobe. Positron emission tomography indicated fluorodeoxyglucose avidity in the nodule, with further hilar nodal uptake (Fig 1). Transbronchial fine needle aspiration of hilar nodes

Authors: ^Acardiology senior house officer, Mater Infirmorum, Belfast, UK; ^Bcardiology registrar, Mater Infirmorum, Belfast, UK; ^Cconsultant cardiologist, Mater Infirmorum, Belfast, UK

confirmed a diagnosis of squamous cell carcinoma. Transthoracic echocardiography demonstrated preserved left ventricular systolic function, moderate to severe mitral regurgitation and moderate mitral stenosis. Her case was discussed at the respiratory multidisciplinary team meeting and it was felt that she would not be fit for active treatment.

Five months later, she represented with worsening dyspnoea and peripheral oedema. Repeat transthoracic echocardiography demonstrated thickened mitral valve leaflets causing severe stenosis, and severe right ventricular systolic dysfunction. Subsequent transoesophageal echocardiography revealed a large mass extending between the leaflets causing severe mitral stenosis (Fig 2).

Based on imaging findings, the absence of clinical signs of infection, sterile blood cultures and negative lupus serology; a diagnosis of non-bacterial thrombotic endocarditis was made. Her anticoagulant was switched to warfarin, and she responded well to diuretics. Two months following discharge, she remained stable.

Discussion

Non-bacterial thrombotic endocarditis (NBTE) describes sterile platelet thrombi deposition on heart valves. It was formerly known as marantic endocarditis as it was often encountered in critically unwell patients, or at autopsy.¹ NBTE is rare and shows no sex predilection. It is primarily associated with cancer, usually adenocarcinoma. It has also been described in association with rheumatoid arthritis, sepsis and burns.¹

Pulmonary and cerebral emboli are the primary presenting features of NBTE, as well as embolisation of the spleen, kidney and skin.² Presentation with valvular dysfunction, as described here, is less common.

Treatment of NBTE is directed at the underlying disease, however this is often impossible owing to late presentation. Surgical debridement is rarely performed.³ As there is little inflammatory reaction at the site of endocarditis, systemic embolisation is more common than infective endocarditis and so all patients should be anticoagulated. Heparin is the recommend anticoagulant, although warfarin may be used in patients with longer life expectancy.⁴ ■

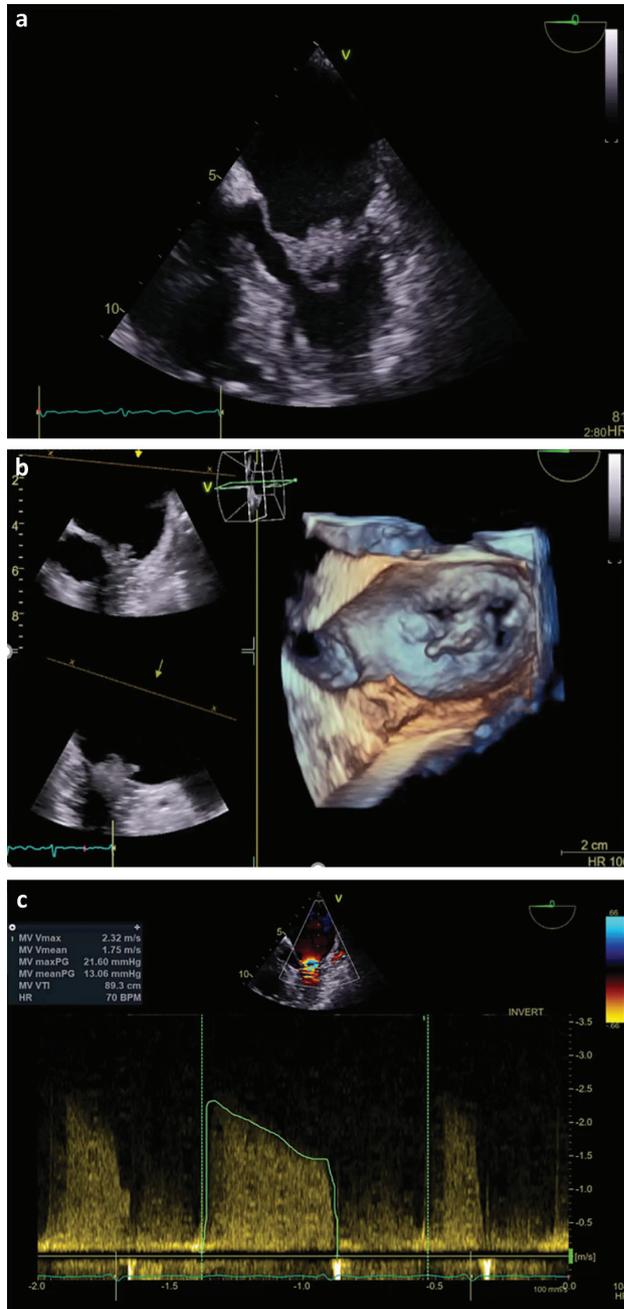


Fig 2. a) 2D still image of mitral valve. b) 3D still image of mitral valve. c) Continuous wave Doppler through mitral valve; peak gradient of 21.6 mmHg and mean gradient of 13 mmHg in keeping with severe mitral stenosis.

References

- 1 Liu J, Frishman WH. Nonbacterial thrombotic endocarditis. *Cardiol Rev* 2016;24:244–7.
- 2 El-Shami K, Griffiths E, Streiff M. Nonbacterial thrombotic endocarditis in cancer patients: pathogenesis, diagnosis, and treatment. *Oncologist* 2007;12:518.
- 3 Rabinstein AA, Giovanelli C, Romano JG et al. Surgical treatment of nonbacterial thrombotic endocarditis presenting with stroke. *J Neurol* 2005;252:352–5.
- 4 Bell WR, Starksen NF, Tong S et al. Trousseau's syndrome. Devastating coagulopathy in the absence of heparin. *Am J Med* 1985;79:423–30.

**Address for correspondence: Dr David McBriar, Mater Infirmorum, Crumlin Road, Belfast BT14 6AB, UK.
Email: david.mcbrir@outlook.com**

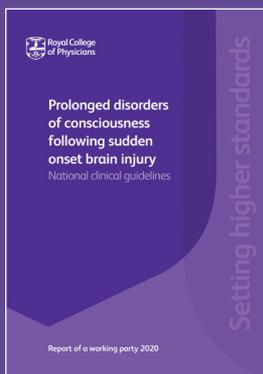


Royal College
of Physicians

Prolonged disorders of consciousness following sudden onset brain injury

National clinical guidelines

New guidelines from the Royal College of Physicians, endorsed or supported by a further 15 health bodies, offer updated guidance on the diagnosis, assessment, care and management of patients with prolonged disorders of consciousness.



Download the updated guidelines
www.rcplondon.ac.uk/pdoc

Setting higher standards