CT visualising infective vegetation

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DESCRIPTION

A 34-year-old man with a history of five cardiac operations including an operation for construction of a right ventricular outflow tract (RVOT) with a homograft due to extreme tetralogy of Fallot suffered from persistent fever. With positive blood culture (methicillin-sensitive *Staphylococcus aureus*) and multiple septic pulmonary emboli shown by CT, right-sided infective endocarditis (IE) was suspected. Transthoracic and transoesophageal echocardiograms were subsequently obtained but did not depict any pathogenic lesions. However, a contrast-enhanced CT scan of the heart successfully revealed a defect of contrast media at the RVOT (figure 1A), which was not seen in a previous CT scan. Fluorodeoxyglucose positron emission tomography (FDG-PET) demonstrated a high uptake at the corresponding site (figure 1B). Under a diagnosis of right-sided IE, antibiotic therapy was initiated. After 8 weeks, although the patient's condition improved and serum inflammatory markers were all within normal ranges, the lesion had not disappeared (figure 1C) and cardiac surgery was eventually performed. It was confirmed that the vegetation remained and replacement of the RVOT was performed.

Echocardiography is a gold standard method to visualise infective vegetation, but it failed in this case. The patient's history of repeated cardiac surgery might have been a main reason for the negative results of echocardiography. Utility of FDG-PET for the evaluation of IE has been reported;[1–3] however, utility of contrast-enhanced CT has not been established. The present case shows that a contrast-enhanced CT scan of the heart may be an alternative method for uncovering infective vegetation, especially in patients with previous cardiac surgery.

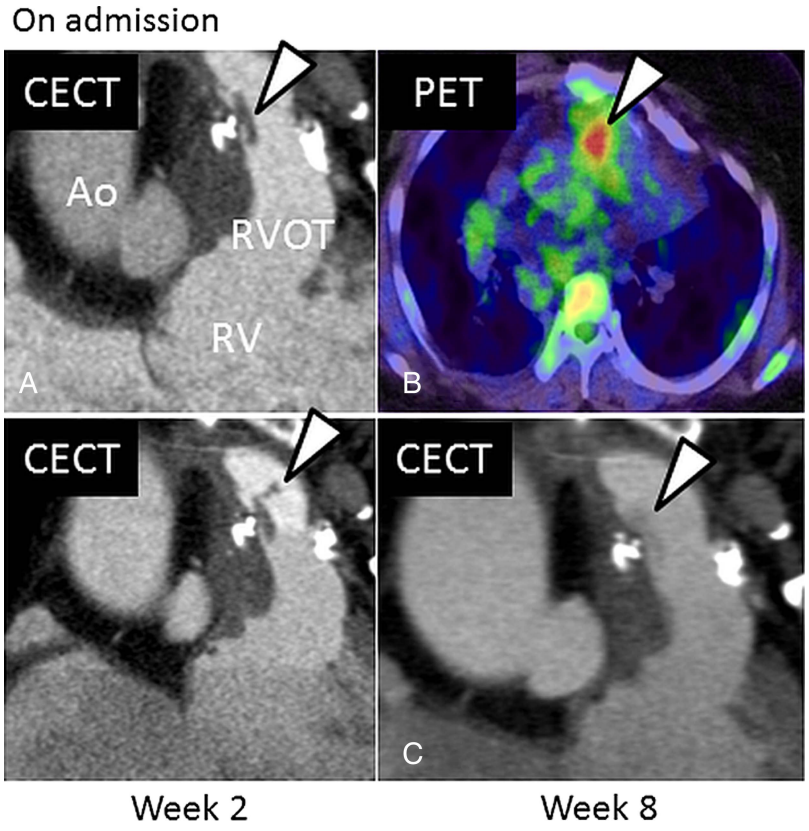

Figure 1 CECT demonstrating a 14 mm lesion on the RVOT. Fluorodeoxyglucose PET showing uptake at the site and the lesion was considered to be an infective vegetation. Even after 8 weeks of antibiotic therapy, the lesion did not disappear (AO, ascending aorta; CECT, contrast-enhanced CT; PET, positron emission tomography; RV, right ventricle; RVOT, right ventricular outflow tract).

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Learning points

- In patients with previous cardiac surgery, visualisation of infective vegetation can be challenging because of anatomical abnormality.
- Even if echocardiography fails, contrast-enhanced CT can be alternatively used for visualising infective vegetation.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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