Positron emission tomography–computed tomography scan helps decision making in cardiac surgery

Sanjay Cherian, René Nkoulou, Afksendiyos Kalangosa and Mustafa Cikirikcioglu*

a Division of Cardiovascular Surgery, Medical Faculty, University Hospital of Geneva, Geneva, Switzerland
b Division of Nuclear Medicine, Medical Faculty, University Hospital of Geneva, Geneva, Switzerland
* Corresponding author. Division of Cardiovascular Surgery, University Hospital of Geneva, Rue Gabrielle Perret-Gentil 4, Geneva, Switzerland.
Tel: +41-22-3727663; fax: +41-22-3727634; e-mail: mustafa.cikirikcioglu@hcuge.ch (M. Cikirikcioglu).

Received 29 July 2012; accepted 8 August 2012

Keywords: PET-CT • Cardiac intervention

A 64-year old male who underwent a mechanical valve Bentall procedure at another institution presented 1 year postoperatively with fever and dyspnoea. Laboratory investigations revealed *Candida albicans* infection with a periprosthetic collection. Confusion as to whether the collection was infective endocarditis, a periprosthetic transudate or a mass of haemostatic plugs used intraoperatively was clarified by combined positron emission tomography–computed tomography (PET–CT scans; Fig. 1).

Figure 1: Contrast CT scans (left panels) of the aortic root in axial (A), two-chamber (B) and three-chamber (C) views showing a collection surrounding the aortic walls (black arrows). Associated hypermetabolic uptake (white arrows) in 18-F-flouro-deoxyglucose (FDG) scans (right panels) was highly suggestive of an infectious process. The patient made an uneventful postoperative recovery following a replacement of the prosthesis with an aortic homograft. This case presentation reinforces the role of the PET–CT scan as an important diagnostic tool in cases of difficult decision making in cardiac surgery.