Periaortitis complicating chronic aortic dissection

Paul W. Johnston*, Peter T. Kennedy, and Paul H. Blair

Regional Medical Cardiology Centre, First Floor, West Wing, Royal Victoria Hospital, Grosvenor Road, Belfast BT12 6BA, UK

* Corresponding author. Tel: +44 2890630303; fax: +44 2890634821. E-mail address: paul.johnston@royalhospitals.n-i.nhs.uk

A 34-year-old man with Marfan’s syndrome was admitted with fever, weight loss, night sweats, low-back pain, and altered bowel habit. Three years earlier, he had suffered a type A aortic dissection involving the entire length of his aorta. He required aortic root replacement and re-suspension of his aortic valve and was being followed-up with moderate aortic regurgitation. Infective endocarditis was excluded. A CT scan of the aortic graft was normal, but there was considerable soft tissue surrounding the entire abdominal aorta and there were mild back-pressure changes on the left kidney (Panel A). The appearance was in keeping with periaortitis. A PET scan demonstrated extensive, abnormal FDG uptake in a “cuff” of soft tissue around the abdominal aorta, extending from the level of the renal hilum to the aortic bifurcation (Panels B and C). He developed progressive dilatation of his left kidney and significant impairment of renal function. He was commenced on high-dose oral steroids (60 mg prednisolone), resulting in a rapid improvement in both renal function and inflammatory markers. However, a MAG3 isotope scan demonstrated an obstructed left kidney with associated functional loss, and consequently, a ureteric stent was placed percutaneously. Periaortitis has been characterized as an exaggerated inflammatory response to advanced atherosclerosis. This is the first report of this condition in a patient with a chronic aortic dissection. This case demonstrates the clinical presentation of periaortitis, the utility of PET scanning and the major complication of obstructive uropathy, which can be managed with steroids and ureteric stenting.

Panel A. A contrast-enhanced CT scan of the abdomen demonstrating a dissection flap in the abdominal aorta (solid arrow), a cuff of tissue surrounding the aorta (dotted arrow), and dilatation of the left renal pelvis.

Panel B. A coronal maximum intensity projection (MIP) of the PET scan. There is abnormal uptake of FDG to the right of the ascending aorta graft and extensive, abnormal FDG uptake in a cuff of soft tissue around the abdominal aorta, extending from the level of the renal hilum to the aortic bifurcation (arrow).

Panel C. A transaxial MIP of the PET scan. There is abnormal uptake of FDG in a cuff of soft tissue around the abdominal aorta (arrow).