

Unusual case of large vessel vasculitis limited to the vertebral arteries

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A 80-year-old male patient was admitted to our hospital with fever and increased serum inflammatory markers (erythrocyte sedimentation rate, C-reactive protein and leucocyte count). The patient underwent fluorine-18 fluorodeoxyglucose positron emission tomography / computed tomography angiography (¹⁸F-FDG PET/CTA) for suspected large vessel vasculitis (LVV). The patient was instructed to fast for at least 6 h prior to radiopharmaceutical administration.

CTA was normal whereas ¹⁸F-FDG PET showed areas of increased glucose metabolism in the cervical region, corresponding to both vertebral arteries on hybrid PET/CTA images (fig. 1). Therefore a diagnosis of LVV limited to the vertebral arteries was hypothesised.

Based on these findings, the patient received corticosteroid therapy with normalisation of symptoms and laboratory data.

¹⁸F-FDG PET/CTA is a useful imaging method in the initial diagnosis of LVV and in the assessment of activity and extent of disease [1–3]. This hybrid imaging method may even detect LVV limited to specific arteries. Atherosclerotic vascular uptake may be a source of false positivity in LVV evaluation with ¹⁸F-FDG PET, despite a classical patchy uptake pattern; vascular inflammation in LVV classically appears as a smooth linear pattern on ¹⁸F-FDG PET [2]. CTA detecting structural changes in large vessels may also be helpful to differentiate LVV and atherosclerosis [2].

Disclosure statement

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Figure 1: Three-dimensional reconstruction of CTA (A), summary 18F-FDG PET image (B) and hybrid PET/CTA images in axial (C), coronal (D) and sagittal (E) projection. CTA was normal whereas 18F-FDG PET showed areas of increased uptake corresponding to the vertebral arteries (arrows), thus demonstrating vasculitis limited to these arteries.

