Clinical vignette

Clinical images: PET-CT and contrast-enhanced ultrasound in Takayasu’s arteritis

A 31-year-old woman was diagnosed with Takayasu’s arteritis (TA) in 2007 and treated sequentially with different immunosuppressant agents including mycophenolate, infliximab, adalimumab and tocilizumab for refractory disease. When we saw her, she had systemic symptoms and increased inflammatory markers. At that time, no immunosuppressant therapy was ongoing and physical examination showed bruits in the sovraortic vessels. Vascular imaging, contrast enhanced ultrasound (CE-US) and PET-CT scan were performed to assess disease activity (Fig. 1). The right panel (D) shows increased 18F-fluorodeoxyglucose vascular uptake on PET-CT, especially in the carotid district bilaterally. The ultrasound grey-scale image on the left side shows marked intima media complex thickness (*) of the left common carotid artery (A). After contrast injection, a progressive enhancement represented by diffuse bright spots can be observed within the vessel wall (B: basal image; C: enhancement of the artery wall). This observation was consistent with the PET-CT findings and with the clinical features. The degree of enhancement of the parietal wall reflects vasa vasorum contrast uptake, a surrogate marker of vascular inflammation. CE-US may represent a useful tool in the diagnosis and follow-up of TA, providing real-time information about ongoing vascular inflammation.

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FIG. 1 PET-CT and CE-US in TA.

(A) Left common carotid artery; (*) intima media complex thickness; (“B” basal image; (“C”) enhancement of the artery wall; (D) 18F-fluorodeoxyglucose vascular uptake on PET-CT.


