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References
The list of references is available in the online version of this paper.

CARDIOVASCULAR FLASHLIGHT

Myocarditis associated with Takayasu arteritis

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A 24-year-old woman was admitted to our hospital with dyspnoea. Severe left ventricular (LV) dysfunction (20% LV ejection fraction) was noted on echocardiography and catheter angiography (see Supplementary material online, Video S1). Contrast-enhanced CT revealed wall thickening and dilation of the ascending aorta, occlusion of the left subclavian artery, and both common carotid arteries stenosis and dilatation (Panels A and B). Therefore, Takayasu arteritis was suspected. Coronary artery disease could be excluded. The viral and bacterial serologies were all negative. She did not have a history of taking any drugs. Myocardial biopsy revealed active myocarditis based on histological investigations using the Dallas criteria (Panel C). A diagnosis of myocarditis with Takayasu arteritis was thus made. Steroid pulse, immunosuppressive, and conventional heart failure therapies were initiated.

Cardiac magnetic resonance (CMR) imaging was conducted at 2 weeks. T2-weighted Black Blood MR imaging revealed a high signal in the left ventricular circumferential wall consistent with acute myocardial inflammation and oedema (Panel D). Dynamic contrast-enhanced imaging revealed that the increased blood volume within the inflamed area led to elevated contrast agent uptake during the early vascular phase (Panel E). Late-gadolinium enhanced (LGE) images, however, did not show left ventricular wall enhancement, suggesting no necrosis or fibrosis of the myocardium (Panel F).

In patients with Takayasu arteritis, myocarditis can occur and cause LV dysfunction in some cases. In our case, LGE images revealed no enhancement, indicating reversible myocardial injury. At 6 months, continuous steroid therapy and conventional heart failure therapy led to LV dysfunction improvement (58% LV ejection fraction).

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