
CARDIOVASCULAR FLASHLIGHT

Multiple myocardial infarctions in a 35 year-old woman with POEMS syndrome

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We report the case of a 35-year-old woman with a POEMS syndrome (polyneuropathy, organomegaly, endocrinopathy, monoclonal gammopathy, skin changes). A transthoracic echocardiography was performed to investigate her monoclonal gammopathy, revealing an apical dyskinesia, and diastolic dysfunction. She had no cardiovascular risk factor except a light smoking of 3 pack years; a 12-lead electrocardiogram showed no sign of prior myocardial infarction.

A cardiac magnetic resonance imaging study soon confirmed echocardiography findings: cine sequences demonstrated a significant wall thinning and dyskinesia of all apical segments of the left ventricle (Panels A and B). Delayed enhancement sequences showed a transmural hyperenhancement in the same apical segments, and a subendocardial hyperenhancement in the lateral wall, of 50% transmural extension, matching the presence of myocardial infarction scars (Panels C–F). Ti-Scout sequence showed no blood-pool and myocardial tissue kinetics that could have suggested a co-existing amyloid disease (Panel I). Furthermore, a liver biopsy performed because of an elevation of g-glutamyl transferase showed no evidence of amyloid deposition.

We described with this patient a case of asymptomatic myocardial infarctions in a young woman without relevant risk factors (3 pack years of smoking), and in whom a 64-slice multidetector computed tomography angiography showed no evidence of coronary artery disease (Panels G and H). In this context, we might relate this thrombotic event to the pro-thrombotic state already described in POEMS syndrome, caused by the elevation of pro-inflammatory cytokines levels such as vascular endothelial growth factor, that was significantly increased in our patient. This pathology is also known to be associated with elevation of circulating matrix metalloproteinase levels, which is implicated in adverse post-infarction remodelling.

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