Eosinophilic myocarditis with left ventricular apical aneurysm

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A previously healthy 27-year-old male patient from São Tomé and Príncipe presented with severe oppressive, precordial pain, refractory to medical therapy, and was evacuated to our institution 4 months after presentation. An ECG showed deep, inverted T-waves on inferior and lateral leads. The eosinophil count was elevated (800 cells/µL), without leucocytosis, and the cardiac troponin I was normal.

Transthoracic echocardiogram showed a dilated left ventricle (LV) with septal and postero-inferior hypokinesia, and severely compromised systolic function (LVEF = 17%). An apical aneurysm (asterisk), with contained rupture (arrows), was suspected (Panels A and B). Since the patient was in severe distress, urgent surgery was planned, and cardiac MRI was not readily available, LV aneurysm and pseudo-aneurysm were confirmed on ventriculography and later on chest CT (Panels C and D). The coronary arteries were normal.

Endoventricular circular plasty with an autologous pericardial patch was performed (Panel E).

Histological analysis showed partial destruction of the myocardium, and eosinophil-rich inflammatory infiltrate involving the myocardium, subendocardium, and intra-mural vessels (Panel F, arrowheads pointing to eosinophils).

An extensive work-up, including serological and microbiologic tests, bone marrow examination and auto-immunity screening, identified no causative condition. Follow-up cardiac MRI revealed a non-dilated LV, with apical thrombus and extensive apical bi-ventricular transmural late enhancement (plus) (Panel G).

As the eosinophil count remained elevated (peak 1920 cells/µL) prednisone was started. Since then, 3 years after the initial presentation, the patient has had no cardiovascular symptoms or events, and the eosinophil count normalized.

Apical aneurysm and pseudo-aneurysm, complicating eosinophilic myocarditis, in the setting of idiopathic hypereosinophilic syndrome was diagnosed. To our knowledge, this is the first description of eosinophilic myocarditis with apical aneurysm.

Supplementary data are available at European Heart Journal – Cardiovascular Imaging online.