Fulminant lymphocytic myocarditis mimicking ST-elevation myocardial infarction

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A 74-year-old lady with hypertensive cardiomyopathy and COPD (GOLD II) was admitted to our hospital because of angina and worsening dyspnoea over the last 3 days. The admission electrocardiogram showed ST-elevation and Q waves in the antero-lateral leads, compatible with subacute anterior myocardial infarction. Troponin I was 52 μg/L and CK 2061 U/L. Urgent coronary angiography excluded coronary artery disease, so trans-thoracic echocardiography (TTE) and cardiac magnetic resonance (CMR) were performed. TTE showed diffuse in left ventricular hypokinesia and increased thickness of the antero-septal wall, while CMR revealed a corresponding extensive myocardial oedema and necrosis with predominant sub-epicardial/mid-myocardial distribution highly suggestive of a myocarditis pattern. The diagnosis of fulminant lymphocytic myocarditis was confirmed by myocardial biopsy. The ejection fraction dropped from 45 to 15% but recovered 3 weeks later (temporary ECMO support) until 40%.

Panel A: ST-elevation in V1–V4 and D1–aVL leads (red boxes), admission ECG. Panel B: significative QRS widening and diffuse ST-elevation (yellow boxes), day 4 ECG. Panels C, D and F: short-axis (C) and three-chamber long-axis (D) MR T2 mapping with extensive circumferential sub-epicardial myocardial oedema, particularly on the right-ventricular side of the interventricular septum (green arrows; the light purple myocardium marks myocardial oedema with T2 value increased to 68 ms). Three-chamber, long-axis MR late enhancement view (Panel F) with an analogous distribution of myocardial necrosis (blue arrows). Panel E: myocardial biopsy showing diffuse lymphocytic–histiocytic infiltrate and myocyte necrosis.

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