Transient oedema in mid-ventricular Takotsubo cardiomyopathy

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A 58-year-old female with a medical history of borderline hypertension presented to our department with complaints of acute chest discomfort. Her brother had recently died and she was experiencing a stressful time at work.

Her echocardiogram showed lateral ST-changes and troponin I was elevated reaching a maximum level of 4.9 μg/L. Inflammatory biomarkers were normal.

An acute echocardiogram revealed a circumscript mid-ventricular akinesis and a reduced left ventricular ejection fraction of 30%. Coronary angiography showed a right dominant system with slight atheromatosis, but no significant stenosis or signs of thrombus in any coronary vessel.

On the fourth day, she underwent cardiac magnetic resonance imaging (MRI) showing mid-ventricular hypokinesia (see Supplementary material online, Cine S1) and a corresponding oedema as demonstrated by high signal intensity in T2-weighted images (Panels A and B, arrow pointing to oedema) with no signs of fibrosis on late gadolinium enhancement images (Panel E). On the basis of these findings, a diagnosis of mid-ventricular Takotsubo cardiomyopathy was made.

Subsequently, the patient made a complete and uneventful recovery.

A repeat cardiac MRI 9 months later demonstrated full recovery of left ventricular function (see Supplementary material online, Cine S2) and complete regression of the myocardial oedema (Panels C and D) and was still without signs of late gadolinium enhancement (Panel F).

Discussion. Isolated affection of the mid-ventricular segments in Takotsubo cardiomyopathy has previously been described, but it is a rather unusual form of the disease.

Regardless of the pathophysiology responsible for this condition, cardiac MRI could in this case demonstrate a localized myocardial oedema in the afflicted areas and the transient nature of this oedema.

Supplementary material is available at European Heart Journal online.