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## CARDIOVASCULAR FLASHLIGHT

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### A rare cause of tough coronary occlusion

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A 50-year-old woman was admitted with chest discomfort, dyspnoea, and anterolateral ST-elevation (Panel A). Her medical history included a breast sarcoma with a lung metastasis treated 2 years before. Urgent coronary angiography identified an abrupt occlusion of the mid-LAD that was only partially crossed with a stiff wire. Several balloon inflations were unable to restore anterograde flow (Panel B). Left ventriculography showed an irregular, ‘mamelonated’, and motionless anterolateral wall, and grade 4 mitral regurgitation (MR) (see Supplementary material online, Video S1). Echo exhibited an akinetic thickening of the anterolateral wall, involving the anterolateral papillary muscle, and extending beyond the coronary territory onto the right ventricle (Panels C and D, and Supplementary material online, Video S2).

The identification of myocardial thickening rather than subvalvular disruption in the setting of acute massive MR led to the realization of a cardiac magnetic resonance for tissue characterization. Gradient echo sequences revealed high-intensity signal of the thickened structures and LAD lumen invasion (Panel E and Supplementary material online, Video S3). First-pass perfusion depicted heterogeneous enhancement of the mass. The patient course was unfavourable, with third-degree atrioventricular block, refractory heart failure and death.

Necropsy confirmed the diagnosis of extensive cardiac infiltration by sarcoma metastasis. Microscopic study showed spindle tumour cells infiltrating myocardium, conduction system, and coronary vessels. Specific α-actin antibodies revealed intense immunolabelling, indicating smooth muscle differentiation (Panel F).

In conclusion, metastatic tumours are more frequent than primary cardiac tumours, and should be suspected in every patient with a cancer history and a cardiac syndrome with atypical clinical or anatomic features.

Supplementary material is available at *European Heart Journal* online.

