

Cardiac Imaging

Calcified Apical Intramyocardial Hematoma in an Asymptomatic Middle-Aged Man: A Multimodality Imaging Approach

SOPHIA VAINA, IOANNIS FELEKOS, CONSTANTINA AGGELI, CHRISTODOULOS STEFANADIS

First Department of Cardiology, University of Athens Medical School, Hippokration Hospital, Athens, Greece

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Address:
Ioannis Felekos

63 Kasomouli St.
11744 Neos Kosmos
Athens, Greece
yannisfd@hotmail.com

A 54-year-old man, who was undergoing a routine preoperative evaluation prior to laparoscopic cholecystectomy, was found to have an abnormal ECG (negative T waves in V₂-V₆, poor R-wave progression in the precordial leads). The man reported neither a history nor symptoms of cardiovascular disease, except for mild hypertension and dyslipidemia, for both of which he was under treatment with an angiotensin-converting enzyme inhibitor and simvastatin. He exercised regularly, while a past routine echo evaluation and treadmill test were both negative for ischemia. On physical examination there were no signs indicative of any structural heart disease.

An echocardiogram was ordered and illustrated severe hypokinesis of the apex, which appeared to be calcified after contrast infusion. Cardiac catheterization was then performed, revealing severe disease of the mid left anterior descending artery, as well as a dyskinetic and calcified apex (Figure 1 A-D). The patient underwent coronary magnetic resonance (CMR) imaging on an outpatient basis, which confirmed the echo and coronary angiography results, showing a calcified intramyocardial hematoma on late gadolinium enhancement images (Figure 1 E, F).

This is an interesting case of an asymptomatic patient, in good condition, with an unusual presentation of coronary artery disease. Intramyocardial hematoma is a rare complication, while most reported cases in the literature are in the setting of acute myocardial infarction.¹ At this point, it should be stated that the major diagnostic dilemma was whether the illustrated lesion was an apical thrombus or a hematoma. With regard to intramyocardial hematoma, the most powerful diagnostic criterion is the presence of endocardium in the region of interest. On the other hand, left ventricular apical thrombus characteristically presents with absence of the endocardium. Regarding our patient, on careful inspection of the images, the left ventricular apex appeared as a saddle-like calcified area with preserved endocardium, as illustrated by both CMR and contrast echo. This was consistent with an intramyocardial hematoma rather than an apical thrombus.

References

1. Wilson JR, Marshall RJ, Shanbhag SM, et al. Multimodality imaging of a dissecting intramyocardial hematoma extending into the left atrial wall following myocardial infarction. *Circulation*. 2012; 126: e339-341.

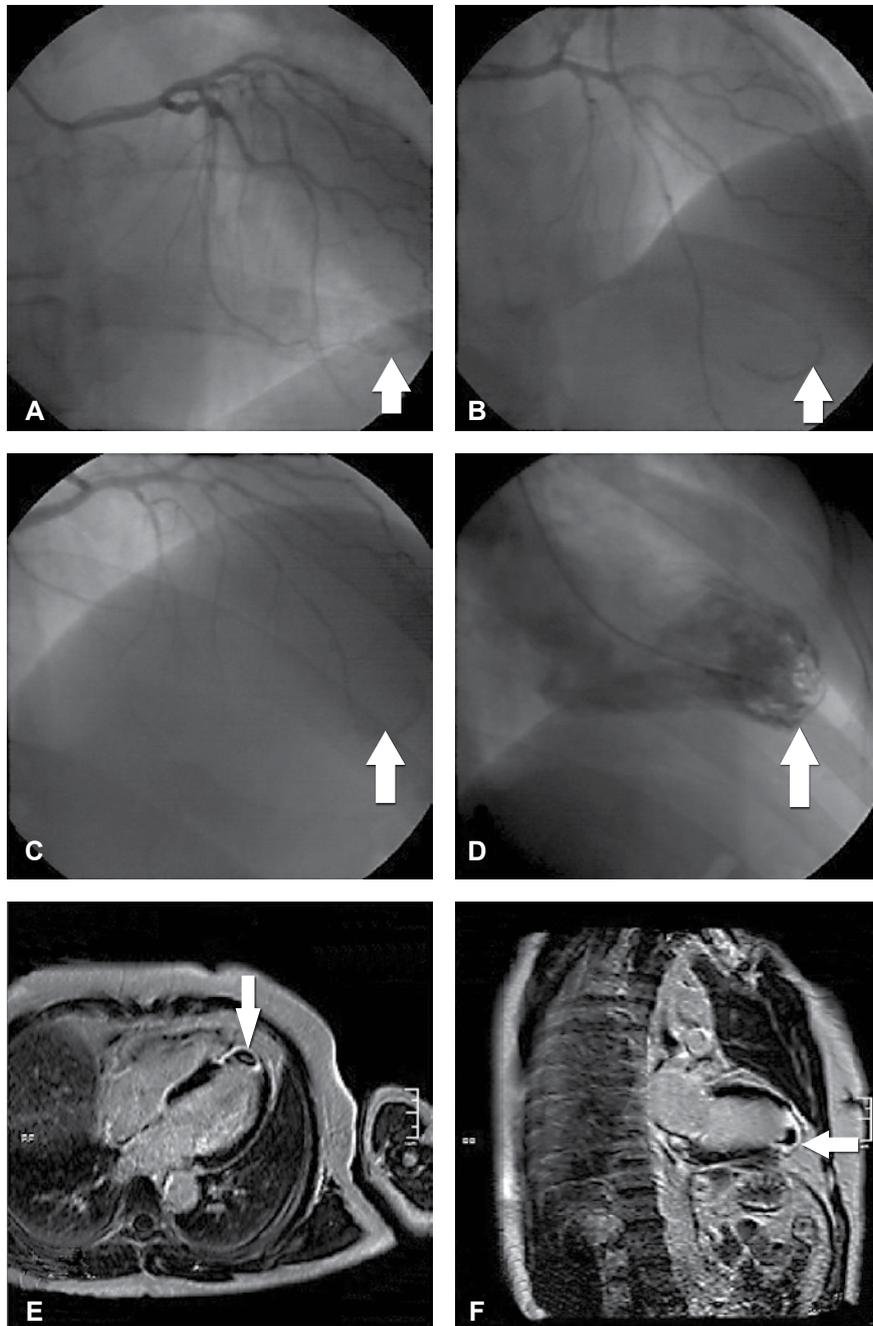


Figure 1. A-D: Coronary angiogram and ventriculography, showing severe mid-LAD disease. E, F: Cardiac magnetic resonance imaging with late enhancement, illustrating intramyocardial hematoma.