Giant Calcified Left Ventricular Aneurysm with Calcified Thrombus Following Remote Myocardial Infarction

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Abstract
In this case study, we provide angiographic and computed tomography images demonstrating a large calcified left ventricular (LV) aneurysm and associated calcified thrombus—unique, and now rare, sequelae of ST-elevation myocardial infarction (MI) that are rarely seen in the era of percutaneous coronary intervention (PCI). We discuss here the epidemiology, natural history, workup, and recommended management for LV aneurysms and thrombi with reference to clinical guidelines. Our patient’s calcified LV aneurysm and thrombus were discovered at the time of cardiac catheterization undertaken for a 2-month history of stable angina. He suffered an anterior MI 17 years ago and took aspirin only. He remained asymptomatic until presentation. Angiography also demonstrated severe triple-vessel coronary artery disease including left anterior descending artery occlusion. Our patient underwent stenting of the left circumflex and first diagonal and staged PCI to the right coronary artery, which led to functionally complete revascularization.

Résumé
Giant calcified left ventricular aneurysm

Patient a subi une implantation d’endoprothèses dans l’artère auriculoventriculaire et la première branche diagonale et une ICP différée de l’artère coronaire droite, ce qui a mené à une revascularisation complète fonctionnelle.

Keywords: Left ventricular aneurysm, calcified thrombus, myocardial infarction, coronary artery disease

Case

A 60-year-old man presented with 2 months of stable angina. Following a myocardial infarction (MI) 17 years ago, he underwent diagnostic angiography. He did not receive reperfusion therapy but was prescribed aspirin. He remained asymptomatic until presentation. Electrocardiography showed anterolateral and inferior Q-waves. Exercise stress testing was stopped early due to angina and 2-mm precordial ST elevations.

Angiography demonstrated severe triple-vessel coronary artery disease including left anterior descending artery (LAD) occlusion (Figure 1A), apical akinesis and a giant left ventricular (LV) aneurysm, and calcified thrombus (Figure 1B–F). Surgical revascularization was considered high risk, given LV dysfunction, the futility of bypassing an LAD serving an aneurysmal segment and the possibility that fibrosis might impede heart rotation when bypassing the circumflex. The patient underwent stenting of the left circumflex and first diagonal and staged percutaneous coronary intervention.

Figure 1. (A) Injection of left coronary system reveals an occluded LAD (arrow) with multiple lesions in a high 1st diagonal and in the circumflex system; (B) Left ventriculogram prior to the injection of dye in the right anterior oblique (RAO) projection demonstrating calcification of the anteroapical aneurysm (ejection fraction of approximately 30%); (C) Left ventriculogram taken in the RAO projection, demonstrating a large anteroapical aneurysm (arrows) with extensive thrombus formation (arrowhead); Axial (D, E) and coronal (F) noncontrast CT scan of the chest following percutaneous coronary intervention demonstrate an enlarged heart with a large calcified anteroapical aneurysm (arrows) with calcified thrombus (arrowheads).
Treatment for thrombi despite anticoagulation is less clear. Anticoagulation may be discontinued for layered, immobile, or calcified thrombi because endothelialized clot is less likely to embolize.1,3 Aneurysmectomy may be considered for arrhythmias, refractory heart failure or angina, and recurrent thromboembolism.2

References

