A 63-year-old woman sustained an anterior wall myocardial infarction in 1982, followed by coronary artery bypass grafting and “aneurysm repair” of an unspecified location. After 25 years, she presented with atypical chest pain, and myocardial infarction was ruled out. The patient refused cardiac stress testing, and 64-detector coronary computed tomographic angiography was performed. The left anterior descending coronary artery and the corresponding vein graft were totally occluded. There was a large anteroseptal pseudoaneurysm, with the unusual characteristic of multiple connections through the anterior wall and septum at the site of the earlier aneurysm patch repair, most likely secondary to dehiscence of the cardiac suture lines, as a result of chronic repetitive stresses secondary to myocardial contraction (Figures 1 through 3; Movies 1 through 3). The patient was referred to cardiothoracic surgery for further evaluation. In light of the chronicity of the pseudoaneurysm, the decision was made to follow the patient conservatively.

Left ventricular pseudoaneurysms form when cardiac rupture is contained by adherent pericardium or scar tissue. They occur most commonly after myocardial infarction, but may also be the result of trauma or infection, and are thought to be an infrequent complication of surgical aneurysm repair. The natural history and optimal management of chronic or late left ventricular pseudoaneurysms are not well established. Most cases of left ventricular pseudoaneurysms, even if chronic and discovered incidentally, have been treated surgically. Recent reviews report that medical treatment of chronic pseudoaneurysm is not associated with an increased risk of cardiac rupture and in the absence of evidence of expansion may be followed conservatively.

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None.

References

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Figure 1. Axial image demonstrating the connection of the pseudoaneurysm to the left ventricle.

Figure 2. Three-dimensional reconstruction of computed tomographic angiography data set reveals external and internal aspects of the aneurysm patch repair, including areas of dehiscence and connection to the left ventricle.

Figure 3. Left ventricular angiogram showing delayed filling of large anteroapical pseudoaneurysm.
Multifocal Left Ventricular Pseudoaneurysm 25 Years After Aneurysm Repair: Detection by 64-Detector Computed Tomographic Coronary Angiography
Tandeep K. Bhatti, Marcelo A. Jimenez and Harvey S. Hecht

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Figure 1. Axial images starting at the level of the aorta scrolling inferiorly towards the base of the heart, showing the multiple connections of the pseudoaneurysm with the LV. (Recommended application for viewing – Windows Media Player)

Figure 2. 3-D reconstruction of CTA dataset reveals external and internal aspects of the aneurysm patch repair, including areas of dehiscence and connection to the LV. (Recommended application for viewing – Windows Media Player)

Figures 3. LV angiogram showing delayed filling of large anteroapical pseudoaneurysm. (Recommended application for viewing – Windows Media Player)