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Jason H. Rogers, Nilto C. De Oliveira, Ralph J. Damiano, Jr and Joseph G. Rogers

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## Left Ventricular Apical Pseudoaneurysm Echocardiographic and Intraoperative Findings

Jason H. Rogers, MD; Nilto C. De Oliveira, MD; Ralph J. Damiano Jr, MD; Joseph G. Rogers, MD

A 57-year-old man with a history of hypertension and tobacco use was emergently transferred to our facility for management of a myocardial rupture. Three weeks before transfer, the patient had experienced an episode of chest pain, dyspnea, diaphoresis, and near syncope. After evaluation at an outside facility, the patient was sent home with a provisional diagnosis of pleurisy. Blood cultures drawn at that time later grew *peptostreptococcus*, and the patient was admitted to an outside hospital for intravenous antibiotics. An echocardiogram was performed to rule out endocarditis. Echocardiography demonstrated a large apical myocardial rupture and apical pseudoaneurysm, which contained a large amount of thrombus (Figures 1A and 1B and the Movies, which are

available in an online-only Data Supplement at <http://www.circulationaha.org>). Coronary angiography revealed an ulcerated plaque in the mid-left anterior descending artery without significant disease in the other vessels. The patient underwent emergent surgical repair at which time a friable clot was found within the pseudoaneurysm (Figure 2A). The repair was accomplished by the endoventricular circular patch plasty technique ("Dor procedure") (Figure 2B). Surgical pathology of the excised specimen showed organizing hematoma with fragments of thin fibrous membrane, consistent with a pseudoaneurysm. The patient did well during the postoperative period, but died from a fatal cardiac arrhythmia on postoperative day 10.

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**Movies I and II are cine loops and are available in an online-only Data Supplement at <http://www.circulationaha.org>**

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The editor of Images in Cardiovascular Medicine is Hugh A. McAllister, Jr, MD, Chief, Department of Pathology, St Luke's Episcopal Hospital and Texas Heart Institute, and Clinical Professor of Pathology, University of Texas Medical School and Baylor College of Medicine.

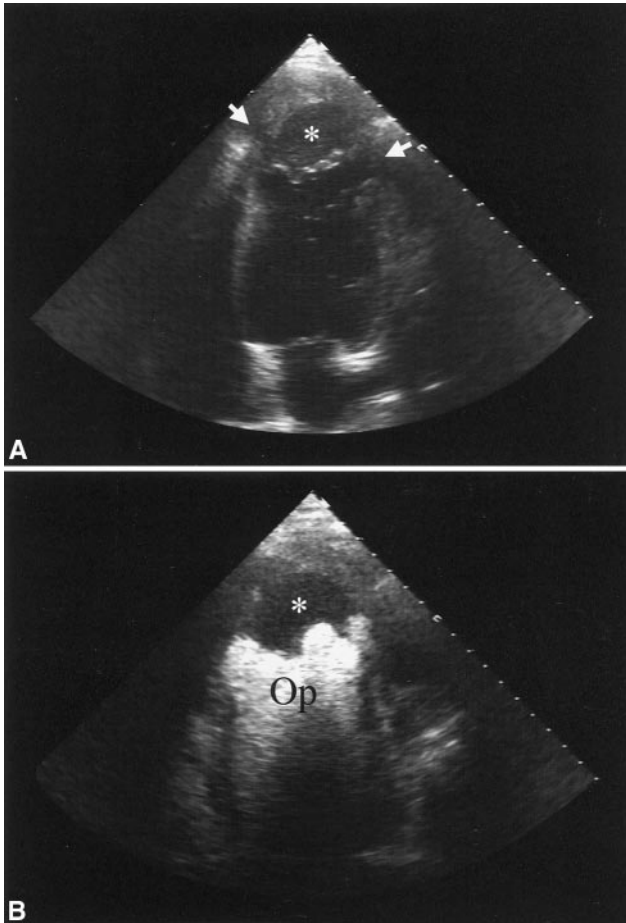
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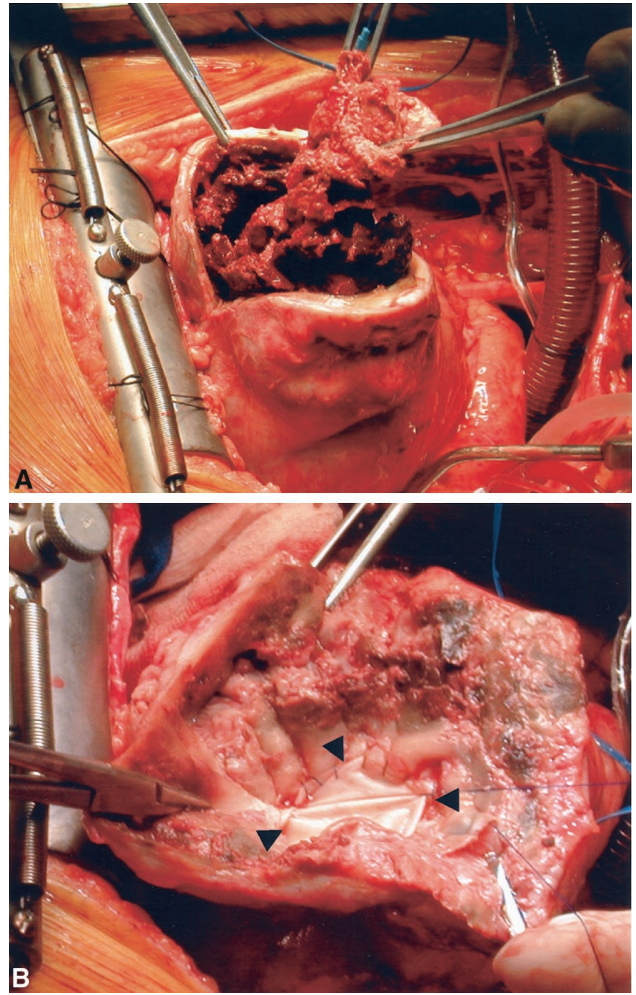
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**Figure 1.** Transthoracic echocardiography of apical pseudoaneurysm. A, Apical 4-chamber view demonstrates large apical pseudoaneurysm containing a large thrombus (asterisk). There is a sharp discontinuity of the myocardium at the site of the pseudoaneurysm communication with the left ventricular cavity (arrows). B, Apical 4-chamber view with Optison enhancement of the left-ventricular cavity (Op), showing clear delineation of thrombus within the pseudoaneurysm (asterisk).



**Figure 2.** Intraoperative appearance of apical pseudoaneurysm. A, Note large amount of friable clot contained within the pseudoaneurysm. B, Repaired pseudoaneurysm by the endoventricular circular patch plasty technique. A patch of bovine pericardium was used (arrowheads), restoring a more normal geometry to the left ventricle.