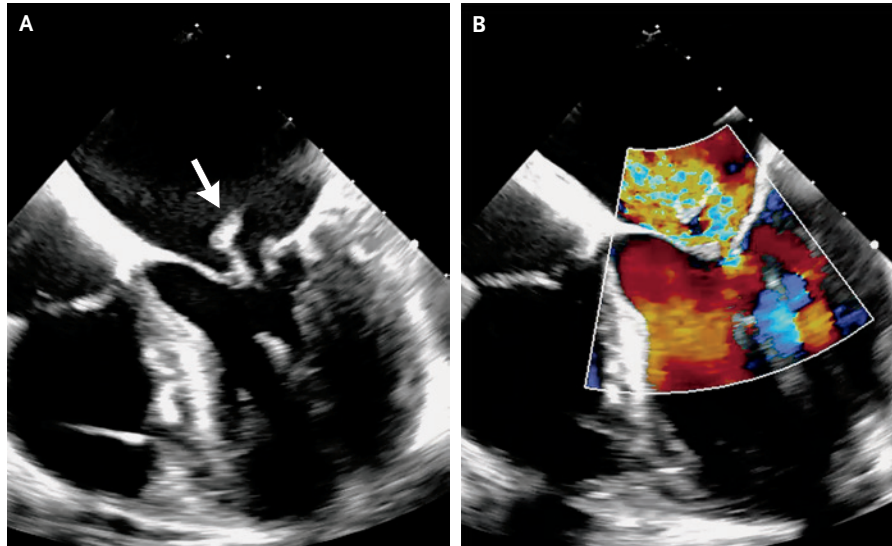


IMAGES IN CLINICAL MEDICINE

Stephanie V. Sherman, M.D., *Editor*

Mitral Regurgitation from Ischemic Papillary-Muscle Rupture



A 59-YEAR-OLD WOMAN PRESENTED WITH A 2-DAY HISTORY OF PROGRESSIVE dyspnea. Her blood pressure was 140/98 mm Hg, respiratory rate 40 breaths per minute, and oxygen saturation 90% while she was breathing 100% oxygen through a nonrebreather mask. On physical examination, there were rales in both lungs and a pansystolic murmur at the cardiac apex. An electrocardiogram showed sinus tachycardia with T-wave inversions in the anterior leads but no Q waves or ST-segment elevations. A high-sensitivity troponin assay showed a level of 1093 ng per liter (reference value, <19). A transthoracic echocardiogram showed severe mitral regurgitation with flailing of the anterior mitral-valve leaflet, and a transesophageal echocardiogram showed rupture of the anterolateral papillary muscle with prolapse into the left atrium (Panel A, arrow, and Video 1) and severe mitral regurgitation (Panel B and Video 2). A diagnosis of mitral regurgitation from ischemic papillary-muscle rupture was made. Because of its dual arterial supply, the anterolateral papillary muscle is less likely to rupture than the posteromedial papillary muscle, which is supplied by a single artery. In this case, coronary angiography revealed multivessel disease with a severe stenosis of a large obtuse marginal branch of the left circumflex artery, which was thought to be the culprit lesion. Emergency mitral-valve replacement surgery was performed, but coronary-artery bypass grafting could not be performed owing to poor distal vessel targets. The patient declined percutaneous coronary intervention but did well with medical management over 1 year of follow-up.

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Priyanka Bhugra, M.D.¹Nadia Fida, M.D.¹¹Houston Methodist Hospital, Houston.Dr. Bhugra can be contacted at pbhugra@houstonmethodist.org.

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