

FIGURE 271e-6 Cardiac magnetic resonance (CMR) stress myocardial perfusion images in a 60-year-old patient with atypical chest pain. Cine movie short-axis image (*left upper panel*) shows normal left ventricle size and global and regional function at rest. During vasodilator stress, there is marked reduction of lateral wall perfusion (*white arrow, right upper panel*) as well as a mild defect in the septal wall. This region is confirmed to be viable by matching late gadolinium enhancement imaging (*left lower panel*), which demonstrated no evidence of infarction in the lateral wall. These findings are consistent with a severe coronary stenosis in the left circumflex artery. On angiography performed subsequently, there is a tight lesion in the left circumflex artery (*red arrow, right lower panel*). (See Videos 271e-5 and 271e-6.)

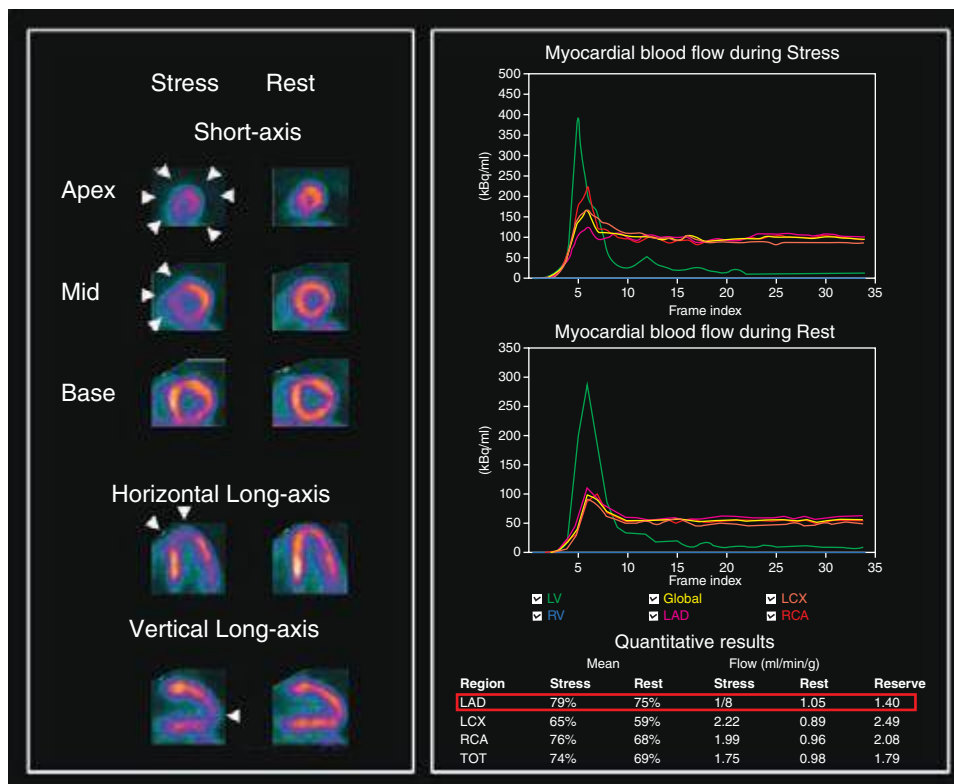


FIGURE 271e-7 Adenosine positron emission tomography (PET) myocardial perfusion ^{13}N -ammonia scan in a 60-year-old female with atypical chest pain. The stress images (*left*) show a large defect involving the apex, all apical segments, mid-inferior, mid-inferoseptum, and mid-anteroseptum (*arrowheads*), which is completely reversible at rest (*right*). This is consistent with a medium-sized area of stress-induced ischemia in the mid portion of the left anterior descending (LAD) coronary artery. The *right panel* illustrates the time-activity curves used for quantification of myocardial blood flow (in mL/min per g of tissue) at peak stress (*upper panel*) and at rest (*lower panel*). Coronary flow reserve is then calculated as the ratio of stress/rest myocardial blood flow. The coronary flow reserve is abnormal in the LAD territory, and normal in the left circumflex (LCX) and right coronary artery (RCA) territories (i.e., >2.0). TOT, total left ventricle.