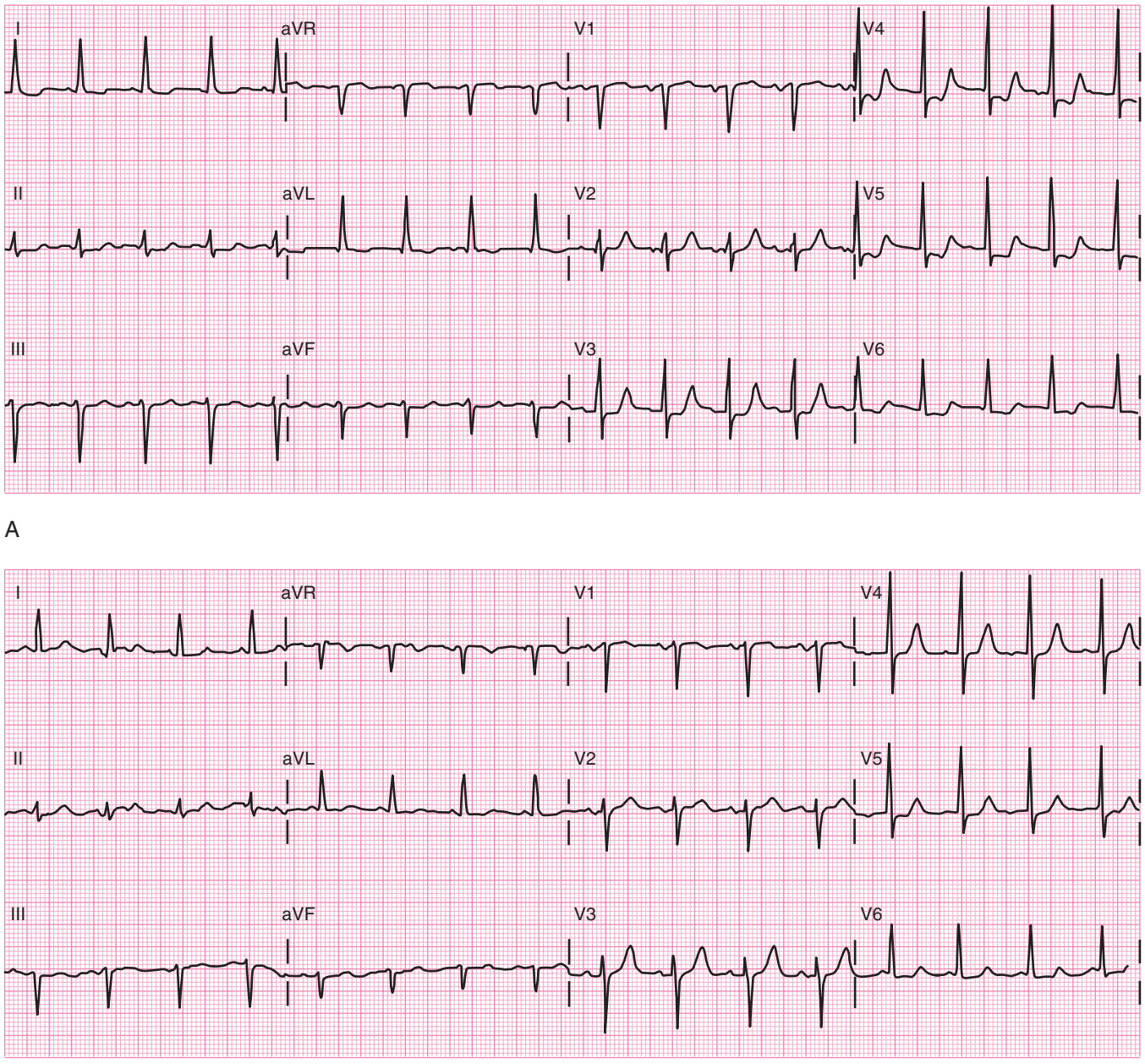

FIGURE 8-2 Electrocardiogram obtained during angina **(A)** and after the administration of sublingual nitroglycerin and subsequent resolution of angina **(B)**. During angina, transient ST-segment depression and T-wave abnormalities are present.

myocardium, allowing for comparison of stress-induced ischemia to a baseline state. The other tracers do not share this redistribution feature, and tests using technetium 99 or tetrofosmin require both "rest" and "stress" injections of tracer to differentiate ischemic myocardium. Patients with normal perfusion studies have a low risk of coronary events (<1%/year). The presence of a positive perfusion study confers a risk of about 7%/year for coronary events, with the risk increasing relative to the extent of perfusion abnormality.

An alternative means of imaging for exercise testing is the use of echocardiography to detect ischemia-induced wall motion abnormalities. This form of testing is increasingly favored because there is no radiation associated with its use, whereas radionuclide tracers expose the patient to a significant dose of radiation. Stress echocardiography carries with it the same enhancement in sensitivity, specificity, and predictive value as radionuclide imaging. An additional benefit of echocardiography imaging is more discrete anatomic data on valve function. If it is coupled with Doppler flow imaging, information regarding exercise-induced mitral regurgitation can be obtained.

Another means of assessing for exercise-induced wall motion abnormalities is the use of radionuclide ventriculography or multigated acquisition scanning (MUGA). This technique is usually included as part of the interpretation of an exercise stress