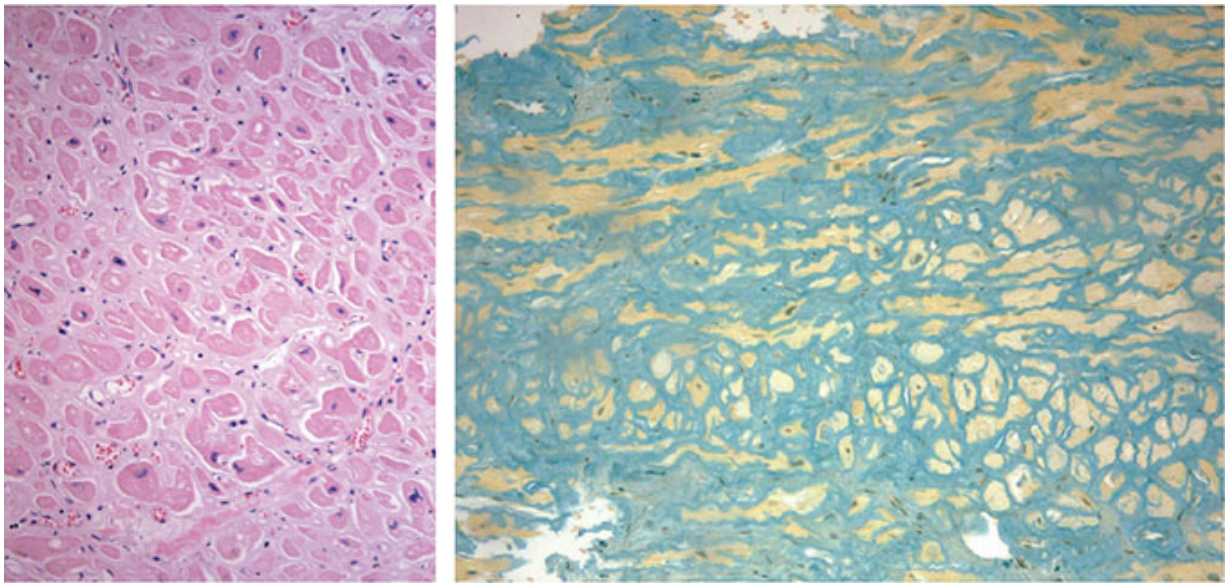

FIGURE 259-14 Amyloidosis—microscopic images of amyloid involving the myocardium. The left panel (hematoxylin and eosin stain) shows glassy, gray-pink amorphous material infiltrating between cardiomyocytes, which stain a darker pink. The right panel shows a sulfated blue stain that highlights the amyloid green and stains the cardiac myocytes yellow. (The Congo red stain can also be used to highlight amyloid; under polarized light, amyloid will have an apple-green birefringence when stained with Congo red.) Images at 100× original magnification. *(Image courtesy of Robert Padera, MD, PhD, Department of Pathology, Brigham and Women's Hospital, Boston.)*

Right heart failure often dominates the clinical presentation of cardiac amyloidosis, although both ventricles are affected. Conduction system disease and atrial fibrillation are common. Nephrotic syndrome is common in AL amyloid, which may also cause angina as the amyloid encircles the coronary arteries. Because the ventricular cavity is diminished by amyloid infiltration, cardiac output may be very low with a modest ejection fraction reduction. Peripheral and autonomic neuropathy are common in both AL amyloidosis and ATTRm amyloidosis. A history of carpal tunnel syndrome is common in ATTRm and ATTRwt, often preceding cardiac symptoms by many years. ATTRwt is also associated with spinal stenosis.

Amyloidosis should be suspected when ventricular myocardium appears thick on imaging with low ECG voltage, but this mismatch is more common with AL than TTR amyloidosis. Atrial enlargement is