ORTHOSTATIC HYPOTENSION PREDICTS MORTALITY IN MIDDLE-AGED ADULTS: THE ATHEROSEDEROSIS RISK IN COMMUNITIES (ARIC) STUDY, by Rose et al.

Orthostatic hypotension, defined as a decrease of 20 mm Hg of systolic blood pressure or 10 mm Hg diastolic blood pressure with standing, occurs in about 5% of people in the community. This condition predicts adverse effects in older, frail populations, but its importance in middle-aged groups is less well defined. Investigators from the Atherosclerosis Risk in Communities (ARIC) Study compared 674 middle-aged individuals with orthostatic hypotension and 128 people without the condition. They assessed whether orthostatic hypotension predicted risk of death over 13 years of follow-up, after adjusting for other important risk factors. The findings suggest that orthostatic hypotension might be a new important risk factor with considerable prognostic importance. See p 630.

LOCAL CONTROLLED INTRAMYOCARDIAL DELIVERY OF PLATELET-DERIVED GROWTH FACTOR IMPROVES POSTINFARCTION VENTRICULAR FUNCTION WITHOUT PULMONARY TOXICITY, by Hsieh et al.

Although there is evidence that platelet-derived growth factor (PDGF) can protect the myocardium from ischemic injury, PDGF also has the potential to cause pulmonary hypertension. Hsieh et al tested the ability of self-assembling peptide nanofibers to deliver PDGF to the myocardium. In rats subjected to myocardial infarction by coronary artery ligation, injection at the time of ligation of PDGF via nanofibers reduced infarct size by over 50% and resulted in improved left ventricular size and function from 1 day to 3 months after infarction. There was no evidence of pulmonary hypertension or pulmonary artery remodeling. This experiment suggests that nanofibers can be used to selectively deliver a therapeutic agent to the myocardium. See p 637.

PLAQUE VOLUME AND OCCURRENCE AND LOCATION OF PERIPROCEDURAL MYOCARDIAL NECROSIS AFTER PERCUTANEOUS CORONARY INTERVENTION: INSIGHTS FROM DELAYED-ENHANCEMENT MAGNETIC RESONANCE IMAGING, THROMBOLYSIS IN MYOCARDIAL INFARCTION MYOCARDIAL PERFUSION GRADE ANALYSIS AND INTRAVASCULAR ULTRASOUND, by Porto et al.

In this issue of Circulation, Porto and colleagues systematically studied the mechanism of myonecrosis during percutaneous coronary intervention of native coronary arteries using angiographic analysis, intravascular ultrasound, and delayed-enhancement magnetic resonance imaging. Two distinct patterns of myonecrosis were observed: 1) “adjacent” to the stent and related to side branch compromise; and 2) “distal” or downstream from the stent and associated with significantly greater reduction in plaque volume and closed microvasculature consistent with distal embolization. The findings of Porto et al have important implications for efforts to minimize procedural myonecrosis, strongly suggesting that consideration of side branch anatomy, stent design, and/or use of distal protection devices during extensive coronary stenting will be required to optimize clinical outcomes. See p 662.
Issue Highlights

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