Noninvasive testing for coronary artery disease

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Citation

Authors' objectives
This report evaluates the current state of evidence regarding effectiveness and harms of noninvasive technologies for the diagnosis of coronary artery disease (CAD) or dysfunction that results in symptoms attributable to myocardial ischemia in stable symptomatic patients who have no known history of CAD.

Authors' conclusions
A review of current studies found no clear differences between testing strategies across settings with regard to clinical or management outcomes on which to base recommendations for one strategy over another for any given pretest risk group that included patients with intermediate pretest risk. No conclusions regarding low-risk patients or high-risk patients without ACS are possible. Limited evidence from RCTs found no clear differences between CCTA and other strategies in clinical outcomes across risk groups, although anatomic testing may result in a higher frequency of referral for ICA and revascularization. The frequency of all-cause mortality and MI was low across studies in all settings. The absence of information on post-test risk stratification and subsequent decisionmaking precluded evaluation of the impact of testing on patient management or outcomes. Testing strategies vary in radiation exposure; there is inadequate comparative evidence to make judgments regarding exposure for the initial test or downstream testing. Assessment of harms was limited. Future research using more refined evidence-based definitions of pretest risk, coupled with information on post-test risk stratification, its impact on clinical management (treatment and referral for additional testing), and longer term followup to assess clinical outcomes, is needed to determine optimal testing strategies and roles of tests in different pretest risk groups.

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