Left ventricular ejection fraction (LVEF) is a determining factor for the prognosis of and used in the clinical decision making for selecting patients to be implanted with cardiac devices. Patients undergoing cardiac resynchronization therapy (CRT) experience significant improvements in LVEF. It is currently unknown whether patients who achieve significant improvements in LVEF have a continued need for the defibrillator in a CRT-defibrillator device. Factors that are positively associated with a normalization of LVEF (>50%) could further play a critical role in determining which patients should be selected for a CRT-pacemaker device rather than CRT-defibrillator device at the preimplantation stage of decision making. In this study, we found that patients who experience normalization of LVEF by the effects of CRT have very low absolute and relative risks of severe ventricular arrhythmias during an average of 2.2 years of follow-up, but it is currently unknown whether these beneficial effects of LVEF normalization will endure over long-term follow-up. Furthermore, our findings indicate that the group of patients with subnormalized LVEF (36%–50%) still encounter a substantial number of ventricular arrhythmias, and although the risk is reduced, an implantable cardioverter-defibrillator would still be appropriate. In the Multicenter Automatic Defibrillator Implantation Trial With Cardiac Resynchronization Therapy (MADIT-CRT) population, patients who were more likely to experience a normalization of LVEF were more often female and those with left bundle-branch block, no previous myocardial infarction, and preimplantation echocardiographic parameters of LVEF>30%, left ventricular end-systolic volume ≤170 mL, and left atrial volume index ≤45 mL/m². Patients who had all 6 baseline factors present did not experience ventricular arrhythmias. These findings could help clinicians differentiate between a costly and higher procedure-related risk of CRT-defibrillator implantation versus CRT-pacemaker implantation at a preimplantation stage. See p 2278.

Mortality From Thoracic Aortic Diseases and Associations With Cardiovascular Risk Factors

This population-level ecological regression provides evidence that mortality from thoracic aortic aneurysm and aortic dissection is generally in decline; however, differences exist between countries, sexes, and age groups. A positive linear relationship appears to exist between trends in systolic blood pressure, cholesterol, and mortality from thoracic aneurysm, suggesting that public health measures to reduce the prevalence of hypertension and high cholesterol may further reduce mortality from this disease. Trends in smoking prevalence demonstrated no associations with mortality from thoracic aortic aneurysm or dissection, which adds to growing evidence that the aorta is a heterogeneous structure with varying influences above and below the diaphragm. See p 2287.

Surgical Ineligibility and Mortality Among Patients With Unprotected Left Main or Multivessel Coronary Artery Disease Undergoing Percutaneous Coronary Intervention

Clinical guidelines and appropriate use criteria have favored surgical revascularization for patients with left main or multivessel coronary artery disease in the absence of a compelling indication for an alternative revascularization strategy. Several patients, however, are deemed at increased risk for coronary artery bypass grafting and thus are ineligible for this approach. In the present study, we evaluated the relationship between documented surgical ineligibility and mortality among patients undergoing percutaneous coronary intervention. The data demonstrate that documentation of surgical ineligibility is associated with an increased risk of in-hospital and long-term mortality among patients undergoing percutaneous revascularization, even after adjustment for known risk factors for adverse events. In fact, the addition of surgical ineligibility to commonly used risk models for percutaneous revascularization significantly improved their ability to predict mortality. These findings have important implications for comparative effectiveness research focused on identifying appropriate revascularization strategies for patients with multivessel coronary artery disease. Reporting of hospital quality and risk-adjusted mortality may also be affected because documentation of surgical ineligibility could be incorporated into risk-adjustment models, which ultimately could alter the assessment of adjusted outcomes and procedural appropriateness. Finally, these data could lead to changes in models used to provide risk-prediction estimates commonly used to guide clinical decision making for individual patients. See p 2295.

Sexual Activity and Counseling in the First Month After Acute Myocardial Infarction Among Younger Adults in the United States and Spain: A Prospective, Observational Study

United States and European cardiovascular society guidelines recommend physicians counsel patients about resuming sexual activity after acute myocardial infarction (AMI), but little is known about patients’ experience with counseling about sexual activity after AMI. In this bi-national (United States and Spain), prospective, longitudinal study of younger AMI patients (N=3501; 2349 women and 1152 men), we demonstrated that, of the few patients who reported discussing sexual activity with a physician in the month after AMI (12% of women, 19% of men), most (68%) were given restrictive recommendations, including to limit sex (35%), to take a more passive role (26%), and to keep their heart rate down (23%). Female gender, older age, and sexual inactivity in the year before AMI were all statistically significant predictors of a lack of discussion among patients and their physicians.
Additionally, those patients who did report counseling around sexual activity after an AMI were commonly given restrictions not supported by evidence or guidelines. It is important for clinicians to avoid discriminating against patients when communicating about the resumption of sex after an AMI. These findings point to mutable physician factors that, if standardized, could increase the frequency of these discussions and improve sexual outcomes after a heart attack. To bolster clinical care guidelines, additional research is needed to better understand what specific recommendations are associated with improved sexual function outcomes after AMI. See p 2302.

**Right Ventricular Function in Heart Failure With Preserved Ejection Fraction: A Community-Based Study**

Among patients with heart failure (HF) with preserved ejection fraction (HFpEF), pulmonary hypertension is common and may ultimately contribute to perturbations in right ventricular (RV) structure and function. Understanding the prevalence and clinical implications of RV systolic dysfunction (RVD) in HFpEF is hindered by the challenges to assessment of RV structure and function. In this community-based HFpEF cohort, we assessed patient characteristics and outcomes according to the severity of RVD as assessed by semiquantitative visual assessment or tricuspid annular plane systolic excursion. The prevalence of RVD varied according to the method used to assess RV function, with RVD present in 20% of patients by semiquantitative assessment and 35% of patients by tricuspid annular plane systolic excursion criteria. The clinical and echocardiographic characteristics of patients with RVD were suggestive of more advanced HF, and those with RVD had worse all-cause and cardiovascular mortality and risk of first and all HF hospitalizations after adjustment for level of pulmonary hypertension and pertinent comorbidities. The different measures of RV function (tricuspid annular plane systolic excursion and semiquantitative assessment) correlated only modestly with abnormal values for the 2 measures, identifying somewhat different groups of patients. Semiquantitative RVD had more potent prognostic implications than tricuspid annular plane systolic excursion–defined RVD, but the optimal technique to assess RVD remains to be defined. These data may assist in the recognition of HFpEF in that it should be realized that RV systolic dysfunction may accompany HFpEF and portends a poorer prognosis, regardless of the severity of PH or comorbid conditions. See p 2310.