Antithrombotic therapy for atrial fibrillation with stable coronary disease

Yasuda et al (N Engl J Med 2019;381:1103, PMID 31475793) conducted a prospective randomized multicenter trial of 2236 patients with atrial fibrillation (AF) who had undergone percutaneous coronary intervention or coronary artery bypass grafting more than 1 year earlier or who had angiographically confirmed coronary artery disease not requiring revascularization. Patients were randomized to monotherapy with rivaroxaban or combination therapy with rivaroxaban plus a single antiplatelet agent. The primary efficacy end point was a composite of stroke, systemic embolism, myocardial infarction, unstable angina requiring revascularization, or death from any cause. The primary safety end point was major bleeding. The trial was stopped early because of increased mortality in the combination therapy group. Rivaroxaban monotherapy was noninferior to combination therapy for the primary efficacy end point, with event rates of 4.14% and 5.75% per patient-year, respectively (hazard ratio [HR] 0.72; P < .001 for noninferiority). Rivaroxaban monotherapy was superior to combination therapy for the primary safety end point, with event rates of 1.62% and 2.76% per patient-year, respectively (HR 0.59; P = .01 for superiority). The authors conclude that as antithrombotic therapy, rivaroxaban monotherapy was noninferior to combination therapy for efficacy and superior for safety in patients with AF and stable coronary artery disease.

Weight and weight change and risk of atrial fibrillation: The HUNT study

Feng et al (Eur Heart J 2019;40:2859, PMID 31209455) conducted an ambispective cohort study of 15,214 individuals. The cohort was created from 2006 to 2008 (the baseline) and was followed for incidence of atrial fibrillation (AF) until 2015. The average body mass index (BMI) over time and weight change was calculated. During follow-up, 1149 participants developed AF. The hazard ratios were 1.2 for BMI over time and weight change was calculated. During follow-up, 1149 participants developed AF. The hazard ratios were 1.2 for BMI (hazard ratio [HR] 0.72; P < .001 for noninferiority). The authors conclude that as antithrombotic therapy, rivaroxaban monotherapy was noninferior to combination therapy for efficacy and superior for safety in patients with AF and stable coronary artery disease.

Long-term incidence of atrial fibrillation and stroke among cross-country skiers

Svedberg et al (Circulation 2019;140:910, PMID 31446766) investigated associations of endurance training with incidence of atrial fibrillation (AF) and stroke in endurance trained athletes. All skiers (N = 208,654) completing a 30- to 90-km cross-country skiing event (1989–2011) and a matched sample (n = 527,448) of nonskiers were followed until the first event of AF or stroke. Female skiers had a lower incidence of AF than did female nonskiers (hazard ratio [HR] 0.55) independent of finishing time and number of races. Male skiers had an incidence similar to that of nonskiers (HR 0.98). Skiers with the highest number of races or fastest finishing times had the highest incidence of AF. Skiers of either sex had a lower incidence of stroke than did nonskiers (HR 0.64). The authors conclude that although on an individual level, AF in well-trained individuals is associated with a higher incidence of stroke, on a population level, the risk of stroke is low and exercise should not be avoided.

Genetic risk of arrhythmic phenotypes in patients with dilated cardiomyopathy

Gigli et al (J Am Coll Cardiol 2019;74:1480, PMID 31514951) investigated the prognostic role of genetic variant carrier status in a large cohort of patients with dilated cardiomyopathy (DCM). A total of 487 patients with DCM were analyzed by next-generation sequencing and categorized the disease genes into functional gene groups. The following composite outcome measures were assessed: (1) all-cause mortality; (2) heart failure–related death, heart transplantation, or destination left ventricular assist device implantation (DHF/HTx/VAD); and (3) sudden cardiac death/sustained ventricular tachycardia/ventricular fibrillation (SCD/VT/VF). A total of 183 pathogenic/likely pathogenic variants were found in 178 patients (37%): 54 (11%) Titin; 19 (4%) lamin A/C (LMNA); 24 (5%) structural cytoskeleton-Z disk genes; 16 (3.5%) desmosomal genes; 46 (9.5%) sarcomeric genes; 8 (1.6%) ion channel genes; and 11 (2.5%) other genes. All-cause mortality was no different between variant carriers and noncarriers (P = .99). A trend toward worse SCD/VT/VF (P = .062) and DHF/HTx/VAD (P = .061) was found in carriers. Carriers of desmosomal and LMNA gene variants experienced the highest rate of SCD/VT/VF, which was independent of the left ventricular ejection fraction. The authors conclude that desmosomal and LMNA gene variants identify the subset of patients with DCM who are at the highest risk of SCD and life-threatening ventricular arrhythmias, regardless of the left ventricular ejection fraction.