The risk of hypertension is higher in adults with an increased body mass index but there is little data on whether weight gain at a younger age is more detrimental than weight gain later in life. In order to address the impact of age of onset of overweight on the subsequent risk of hypertension, Li and colleagues compared 4742 subjects with new-onset overweight to 4742 age and sex-matched normal weight controls in an ongoing community-based prospective cohort in China with a mean follow-up interval of 5 years. After multivariable adjustment, they observed a stepwise increase in risk of hypertension in younger adults (particularly those less than age 40 years) with no significantly increased risk for those with onset of overweight at age 60 years or older (figure 1).

In an editorial, Wong comments on the strengths of this study—large sample size, serial measurements, robustness of the data—but also points out the limitations—mostly men (68%), a single occupational class (a mining company), hypertension diagnosis based on a single measurement and lack of outcome data. Wong concludes that ‘These data suggest that prevention efforts aimed at the reduction or delay of overweight and obesity in younger individuals, may significantly impact the onset of hypertension in later life. Whether such an intervention significantly impacts the onset of cardiovascular disease and its related adverse outcomes requires future study.’

In studies based on costs and healthcare delivery in the USA, mitral transcatheter edge-to-edge repair (TEER) appears to be cost-effective for patients with heart failure with reduced ejection fraction (HFrEF) and severe secondary mitral regurgitation. In this issue of Heart, Cohen and colleagues examined whether mitral TEER in HFrEF patients with severe secondary MR would be cost-effective in the NHS healthcare system. Overall, TEER reduced the rate of heart failure hospitalisations and improved survival (figure 2), but costs of TEER were higher than guideline-recommended medical therapy (GRMT). Even so, the incremental cost-effectiveness ratio was
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In the accompanying editorial, Garbi and Mariani discuss the complexities of cost-effectiveness analysis in the NHS system and point out that “the recently published UK National Institute for Health and Care Excellence (NICE) clinical guidelines recommend TEER for secondary mitral regurgitation as well. Furthermore, as part of the development process of the NICE guidelines, a cost-effectiveness analysis complementary to the NHS England Commissioning through Evaluation (CtE) was performed. This analysis found TEER for severe secondary mitral regurgitation in heart failure with reduced ejection fraction to have an incremental cost per QALY gained of £30 175 (probabilistic base case) and of £28 488 (deterministic lower cost case). The NICE guidelines recommendations are based on both clinical and cost-effectiveness.”

Diagnosis is challenging in patients with a sinus venosus atrial septal defect, in part due to an imperfect understanding of the anatomy of this congenital condition. This knowledge gap is addressed in an elegant CT angiographic study by Relan and colleagues in this issue of Heart. In 96 consecutive patients (mean age 35 years) with a superior sinus venosus defect, all had an anomalous connection of the right superior pulmonary vein to the left atrium (figure 3). In some patients, the right middle and lower pulmonary veins also had anomalous connections. In addition, the superior vena cava over-ride the interatrial septum in 70% of patients (figure 3). As the authors note, it is particularly important to use imaging to identify the 3D location and relationships of the atrial septal defect, pulmonary veins and superior vena cava to determine if a transcatheter approach is reasonable. Careful procedural planning is needed given the considerable anatomic variability between patients.

Brugada syndrome is the subject of a comprehensive review article by Marsman and colleagues in this issue of Heart. The current criteria for diagnosis are summarised (figure 4), followed by sections on clinical presentation, genetics pathophysiology, risk stratification and management. This topic always is of interest to me given my first publication on unexplained sudden death in Southeast Asian
immigrants in Seattle; might have been Brugada syndrome but that diagnosis had not be described at that time and it is difficult to be sure in retrospect. The Education in Heart article in this issue discusses the diagnosis of arrhythmogenic left ventricular cardiomyopathy (ALVC). These genetic conditions with a predisposition to arrhythmias can affect the myocardial tissue of either or both ventricles with predominant right ventricular involvement designated arrhythmogenic right ventricular cardiomyopathy (ARVD) versus biventricular involvement or predominant left ventricular cardiomyopathy (ALVC) (Figure 5).

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