Heart failure with preserved ejection fraction (HFpEF) increasingly is recognised as a cause of disabling symptoms, yet we have little data to support medical therapy for this condition. In order to objectively assess the published data on drug therapy for HFpEF, Zheng and colleagues performed a systematic review and meta-analysis of 25 randomised controlled trials with a total of over 18,000 patients. This analysis showed that beta-blocker therapy was associated with lower all-cause mortality compared with placebo (RR: 0.78, 95% CI 0.65 to 0.94, P = 0.008). Other studied therapies, including ACE inhibitors, aldosterone receptor blockers, and mineralocorticoid receptor antagonists were not associated with lower all-cause or cardiovascular mortality (figure 1).

In an editorial, Schnell and Donal discuss the diagnosis and treatment of HFpEF. There is no simple definition for this complex clinical syndrome, with considerable heterogeneity between patients included in these studies (figure 2). For example, the prevalence of prior myocardial infarction might alter the impact of beta-blocker therapy on clinical outcomes in different study populations. While much remains to be studied, they conclude “A careful evaluation of the patient, including the non-cardiovascular comorbidities, is particularly mandatory in this population in order to determine the best management and improve their symptoms, quality of life and reduce mortality.” Further discussion of these issues can be found in a review article by Zakeri and Cowie on HFpEF which focuses on the overall therapeutic approach and future directions (figure 3).

Although most cardiologists appreciate that bicuspid aortic valve (BAV) disease is associated with dilation of the aortic sinuses or ascending aorta, the association of BAV with variations in coronary artery anatomy is less well known. In a study of 84 post-mortem hearts of patients with complex congenital heart disease and a BAV, coronary artery variations were common with a high take-off of the right (23%) or left (37%) coronary artery seen most often, especially in patients with a hypoplastic left ventricle (figure 4). As these patients grow to adulthood, general cardiologists will need to be aware of this variation in coronary anatomy.

In addition, the observations in this study may shed light on valve and coronary artery embryology, as pointed out in an accompanying editorial. “The genetic underpinning of abnormal coronary development is not well understood and identifying association with congenital left heart disease and aortic root abnormalities may shed some light on a potential common developmental landscape. Embryological formation of the human heart requires a complex integration of a myriad of genes, many of which are not cardiac specific, and is only partially understood. It is presumed that ectopic coronary origins occur as a consequence of disordered molecular signalling with potential genetic underpinnings.”

The Education in Heart article in this issue summarises the incidence, pathophysiology and treatment options for coronary artery calcification with a focus on the use of rotational atherectomy in selected patients.

In the Cardiology in Focus section, Tom Treasure provides a synopsis of the early days in cardiac surgery in the UK which started by treating congenital...
Heart disease with systemic to pulmonary shunts, followed by later development of intracardiac procedures to relieve pulmonic and mitral valve stenosis.7 The Image Challenge in this issue shows a photograph and ultrasound image of impressive right wrist swelling 4 months after coronary angiography in a 93-year-old woman being considered for transcatheter aortic valve implantation.8 How would you manage this finding?

Competing interests None declared.

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