Ischaemic heart disease

Multiple risk factor reduction in diabetes works ▶ One hundred and sixty patients with type 2 diabetes and microalbuminuria were randomly assigned to receive conventional care or intensive treatment. Patients in the intensive therapy group were treated with drugs to maintain glycosylated haemoglobin values below 6.5%, blood pressure below 130/80 mm Hg, cholesterol below 4.5 mmol/l, and triglyceride below 1.7 mmol/l. Recommended lifestyle interventions included reduced dietary fat, regular moderate exercise, and cessation of smoking. All participants in the intensive therapy group were also advised to take aspirin and a dietary supplement that included vitamins E and C, folic acid, and choline. In addition, patients in the intensive therapy group were given an angiotensin converting enzyme (ACE) inhibitor (or, if contraindicated, an angiotensin II receptor antagonist), regardless of blood pressure, to slow the progression of renal disease. After a mean follow up of 7.8 years, one or more cardiovascular events (death from cardiovascular causes, non-fatal myocardial infarction or stroke, coronary or peripheral artery revascularisation, or amputation as a result of ischaemia) had occurred in 44% of patients in the conventional treatment group but in only 24% of those in the intensive therapy group. The risk reduction was similar when revascularisation procedures were excluded. Rates of nephropathy, retinopathy, and autonomic neuropathy were also notably reduced in the intensive therapy group. Although the changes on the composite end point were striking there was no difference in cardiovascular death rates between the groups over the 7.8 years follow up.


MRI can detect subendocardial infarction better than SPECT ▶ The resolution of single photon emission computed tomography (SPECT-MIBI) is ~10 mm, and thus small subendocardial infarcts can be missed. Contrast enhanced cine magnetic resonance (CMR) imaging has better resolution. In animals, contrast enhanced CMR and SPECT detected all segments with nearly transmural infarction (>75% transmural extent of the left ventricular wall). CMR also identified 100 of the 109 segments (92%) with subendocardial infarction (<90% transmural extent of the left ventricular wall), whereas SPECT identified only 31 (28%). In 91 patients, all segments with nearly transmural infarction, as defined by contrast enhanced CMR, were detected by SPECT. However, of the 181 segments with subendocardial infarction, 85 (47%) were not detected by SPECT. On a per patient basis, six (13%) individuals with subendocardial infarcts visible by CMR had no evidence of infarction by SPECT. When CMR can be easily and accessibly combined with perfusion and function imaging, a new gold standard for non-invasive work up of coronary artery disease will have arrived.


Any carotid stenosis > 50% could be a target for treatment in a symptomatic patient ▶ Pooled data from the three biggest trials (n = 6092) of carotid endarterectomy versus medical treatment suggest that surgery increased the five year risk of ipsilateral ischaemic stroke in patients with less than 30% stenosis (n = 1746, absolute risk reduction –2.2%, p = 0.05), had no effect in patients with 30–49% stenosis (1429, 3.2%, p = 0.6), was of marginal benefit in those with 50–69% stenosis (1549, 4.6%, p = 0.04), and was highly beneficial in those with 70% stenosis or greater without near occlusion (1095, 16.0%, p < 0.001). Stroke/death rates at 30 days with surgery were 7% in the trials. With the advent of carotid stenting and distal protection devices, event rates are much lower than this. A new wave of percutaneous intervention may be about to occur on the back of surgical trial data.

over 50%. In total, 21% of the population had some diastolic dysfunction, and 0.7% had severe diastolic dysfunction. CHF was much more common among those with systolic or diastolic dysfunction than in those with normal ventricular function. However, even among those with moderate or severe diastolic or systolic dysfunction, less than half had recognised CHF.

In multivariate analysis, controlling for age, sex, and ejection fraction, mild diastolic dysfunction (hazard ratio 8.31, 95% CI 3.00 to 23.1; p < 0.001) and moderate or severe diastolic dysfunction (hazard ratio 10.17, 95% CI 3.28 to 31.0; p < 0.001) were predictive of all cause mortality.


Another large study suggests elderly patients with heart failure should get β blockers ▶ In nearly 12 000 patients with at least one admission with heart failure, β blockers reduced total mortality (hazard ratio 0.72), mortality caused by heart failure (hazard ratio 0.65) and hospitalisations for heart failure (hazard ratio 0.82). Mean age was 79 years, and 9.7% were on β blockers. These effects were seen with all doses of β blockade but with a trend to better results with higher doses. Interestingly, the use of ACE inhibitors was not associated with a significant reduction in hospitalisations for heart failure (hazard ratio 0.89–0.93 for all doses), although it was associated with decreased all cause mortality (hazard ratio 0.55–0.67).


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**Hypertension**

Pulse pressure and systolic BP are more important than diastolic BP ▶ Of 2040 participants in the Framingham study, CHF developed in 11.8% during the follow up period of 17.4 years. The relation of blood pressure to CHF was strongest for systolic pressure (95% CI 1.14 to 1.76 for systolic pressure). The relation of blood pressure to CHF was strongest for systolic pressure and pulse pressure increment in pulse pressure conferred a 55% increased risk for CHF (hazard ratio 1.56, p < 0.001) were predictive of all cause mortality.


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**General cardiology**

High altitude pulmonary oedema can occur below 2400 m ▶ In 52 previously well patients skiing at 1400–2440 m, high altitude pulmonary oedema (HAPO) developed. All were helped by descent, oxygen, continuous positive airway pressure (CPAP), and fluid restriction. Half of them received nicardipine. Two of the patients presented in coma. Symptoms to watch out for are headache, fever, altered sleep, and breathlessness.


The “O” in HOCM is important ▶ Outflow tract obstruction is not essential to diagnose hypertrophic cardiomyopathy. In a retrospective study of 1101 patients, 25% have a gradient of > 30 mm Hg at rest. In all, 12% died over 6.3 years follow up. The overall probability of death related to hypertrophic cardiomyopathy was significantly greater among patients with outflow tract obstruction than among those without obstruction (relative risk 2.0, p = 0.001). The risk of progression to New York Heart Association (NYHA) functional class III or IV or death specifically from heart failure or stroke was also greater among patients with obstruction (RR 4.4, p < 0.001), particularly among patients 40 years of age or older (p < 0.001). Multivariate analysis confirmed that outflow tract obstruction was independently associated with an increased risk of both death related to hypertrophic cardiomyopathy (RR 1.6, p = 0.02) and progression to NYHA class III or IV or death specifically from heart failure or stroke (RR 2.7, p < 0.001). The amount of gradient was not important. However, the presence of a gradient had low predictive power (7%) for sudden death, explaining the conflicting results in previous studies.


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**Journals scanned**


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**Reviewers**

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