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Ischaemic heart disease

Treat a “normal” cholesterol if the patient is at vascular risk ▶ In over 20 000 patients with proven coronary artery disease, other vascular disease or diabetes, simvastatin 40 mg was compared to placebo. Considering that 17% in the placebo arm were on a statin, and 85% in the treatment arm took the drug, the effect of treatment at five years was a significant reduction in all cause mortality (12.9% v 14.7%, $p = 0.0003$). This was due to a highly significant 18% (standard error 5) proportional reduction in the coronary death rate (5.7% v 6.9%, $p = 0.0005$). The rates of cerebrovascular accident, non-fatal myocardial infarction, and revascularisation were also reduced. Low density lipoprotein (LDL) was reduced by 1 mmol/l on average, starting from an average of 3.3 mmol/l. The benefits remain for patients with total cholesterol < 5 mmol/l and LDL < 3 mmol/l.

▲ **Heart Protection Study Collaborative Group.** MRC/BHF heart protection study of cholesterol lowering with simvastatin in 20 536 high-risk individuals: a randomised placebo-controlled trial. *Lancet* 2002;**360**:7–22.

Stopping the CHAOS ▶ Vitamin supplementation does not benefit the heart. The CHAOS study helped the cause of vitamin E, but the heart protection study, with 20 000 participants taking vitamin E + vitamin C + vitamin A, showed no benefits over five years' follow up. The same was true of long term follow up data from the physicians health study. The message is stop taking vitamins A, C and E, but not the folate.

▲ **Heart Protection Study Collaborative Group.** MRC/BHF heart protection study of antioxidant vitamin supplementation in 20 536 high-risk individuals: a randomised placebo-controlled trial. *Lancet* 2002;**360**:23–33.

▲ **Muntwyler J,** Hennekens CH, Manson JE, Buring JE, Gaziano JM. Vitamin supplement use in a low-risk population of US male physicians and subsequent cardiovascular mortality. *Arch Intern Med* 2002;**162**:1472–6.

▲ **Stephens NG,** Parsons A, Schofield PM, *et al.* Randomised controlled trial of vitamin E in patients with coronary disease: Cambridge heart antioxidant study (CHAOS). *Lancet* 1996;**347**:781–6.

Warfarin for acute coronary syndromes works (in patients not revascularised) ▶ At one year, in 999 patients assigned to low dose aspirin (80 mg), high intensity oral anticoagulation (international normalised ratio (INR) 3–4), or combined low dose aspirin and moderate intensity oral anticoagulation (INR 2–2.5), death/myocardial infarction/cerebrovascular accident occurred in 31 (9%) of 336 patients on aspirin, in 17 (5%) of 325 on anticoagulants (hazard ratio 0.55, 95% confidence interval (CI) 0.30 to 1.00, $p = 0.0479$), and in 16 (5%) of 332 on combination therapy (hazard ratio 0.50, 95% CI 0.27 to 0.92, $p = 0.03$). Major bleeding was recorded in 1% patients on aspirin, 1% on anticoagulants, and 2% on combination therapy ($p = ns$). Minor bleeding was more common in the combination group (5%, 8%, and 15%, respectively, $p < 0.0001$). Patients needing clopidogrel/ticlopidine or due for revascularisation were excluded, so that the relevance to modern practice is limited. Within the study, revascularisation was done in only 10% of patients.

▲ **van Es RF,** Jonker JJC, Verheugt FWA, Deckers JW, Grobbee DE, for the Antithrombotics in the Secondary Prevention of Events in Coronary Thrombosis-2 (ASPECT-2) Research Group. Aspirin and coumadin after acute coronary syndromes (the ASPECT-2 study): a randomised controlled trial. *Lancet* 2002;**360**:109–13.

An “anteroseptal” MI is really an “apical” MI ▶ Q waves were present in precordial leads V1–V2 in 4 patients, V1–V3 in 28 patients, and V1–V4 in the remaining 18 patients. The

presumptive culprit lesion was before the first septal branch in 19 patients and after the first septal branch in 29. Mean (SD) left ventricular ejection fraction was 51 (10%). Echocardiographic analysis showed that the septal wall was never the only wall that was affected. However, the apex was affected in all patients and was the only wall that was affected in 26 (52%) patients (apical wall index, 2.1 (0.5)). In the remaining 24 patients, the septum, anterior wall, and lateral wall were also affected, but less severely than was the apex. Thus perhaps it should be called an apical infarction?

▲ **Bogaty P,** Boyer L, Rousseau L, Arsenault M. Is anteroseptal myocardial infarction an appropriate term? *Am J Med* 2002;**113**:37–41.

Bupropion increases quit rates, but so does banning smoking! ▶ It is useful to be able to quote stats when counselling patients on lifestyle changes. In a recent study of 600 patients who smoked more than 10 cigarettes/day, six month quit rates were 21% with bupropion (Zyban), and only 13% with placebo. Those taking bupropion SR experienced a greater mean reduction in depression symptoms at week 6 (2.96 (9.45) v 1.13 (8.84)) than those taking placebo, and also gained less weight. If smoking is banned in the workplace, then more people are encouraged to quit. This would also reduce the 1000 deaths per year blamed on passive smoking. Banning smoking in all public places might result in a 7% reduction in per capita consumption, the equivalent of the effect of doubling cigarette prices.

▲ **Ahluwalia JS,** Harris KJ, Catley D, Okuyemi KS, Mayo MS. Sustained-release bupropion for smoking cessation in African Americans: a randomized controlled trial. *JAMA* 2002;**288**:468–74.

▲ **Fichtenberg CM,** Glantz SA. Effect of smoke-free workplaces on smoking behaviour: systematic review. *BMJ* 2002;**325**:188.

Heart failure

BNP for heart failure is like troponin for an ACS ▶ In nearly 1500 patients in the accident and emergency department waiting for a diagnosis for their breathlessness, the diagnosis was dyspnoea caused by congestive heart failure in 744 patients (47%), dyspnoea due to non-cardiac causes in 72 patients with a history of left ventricular dysfunction (5%), and no finding of congestive heart failure in 770 patients (49%). B type natriuretic peptide (BNP) concentrations by themselves were more accurate than any historical or physical findings or laboratory values in identifying congestive heart failure as the cause of dyspnoea. The diagnostic accuracy of BNP at a cutoff of 100 pg/ml was 83.4%. The negative predictive value of BNP at concentration of less than 50 pg/ml was 96%.

▲ **Maisel AS,** Krishnaswamy P, Nowak RM, *et al* for the Breathing Not Properly Multinational Study Investigators. Rapid measurement of b-type natriuretic peptide in the emergency diagnosis of heart failure. *N Engl J Med* 2002;**347**:161–7.

General cardiology

TOE can pick up coronary fistulae ▶ Although magnetic resonance imaging has been advertised as the best way of looking at complex anatomy, transoesophageal echocardiography (TOE) can also be used to assess small structures running unusual courses, such as coronary fistulae. In this study of 21 patients, angiography could not delineate the drainage of four fistulae, which were correctly identified by TOE. Connections from all three coronary arteries were imaged.

▲ **Vitarelli A,** De Curtis G, Conde Y, Colantonio M, Di Benedetto G, Pecce P, De Nardo L, Squillaci E. Assessment of congenital coronary artery fistulas by transoesophageal color Doppler echocardiography. *Am J Med* 2002;**113**:127–33.

Pulmonary hypertension as a super-specialty: ► Previously, the only treatment for pulmonary hypertension was calcium channel blockade. Now, with proven mortality reduction on epoprostanol, and the trials of bosentan, these authors advocate centralising services.

▲ **Evans TW**, Gatzoulis MA, Gibbs JSR. A national pulmonary hypertension service for England & Wales: an orphan disease is adopted? *Thorax* 2002;57:471–2.

The side effects of β blockers are overstated. ► It is commonly believed that β blockers cause fatigue, impotence, and depression. In a meta-analysis of 15 trials comparing β blockers to placebo, there was no indication that these drugs cause depression. There was, however, a small excess of reported symptoms of impotence (one for every 199 patients treated for one year) and fatigue (one for every 57 patients treated for one year).

▲ **Ko DT**, Hebert PR, Coffey CS, Sedrakyan A, Curtis JP, Krumholz HM. Beta-blocker therapy and symptoms of depression, fatigue, and sexual dysfunction. *JAMA* 2002;288:351–7.

Journals scanned

American Journal of Medicine; American Journal of Physiology: Heart and Circulatory Physiology; Annals of Emergency Medicine; Annals of Thoracic Surgery; Archives of Internal Medicine; BMJ; Chest; European Journal of Cardiothoracic Surgery; Lancet; JAMA; Journal of Clinical Investigation; Journal of Diabetes and its Complications; Journal of Immunology; Journal of Thoracic and Cardiovascular Surgery; Nature Medicine; New England Journal of Medicine; Pharmacoeconomics; Thorax

Reviewers

C Baker, E Barnes, V Bhatia, R Desilva, M Earley, K Fox, D Gorog, G Jenkins, R Kaprilian, A Kapur, M Khan, P Lambiase, V Markides, M Poullis, P Ramrakha, J Strange, B Wasan, H Walker

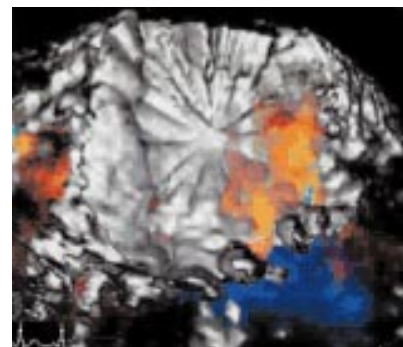
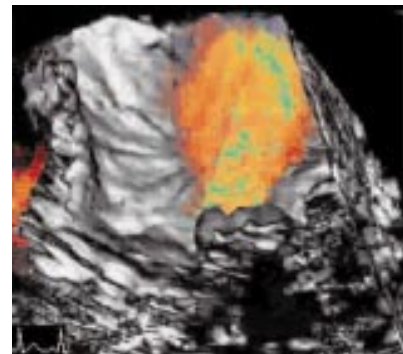
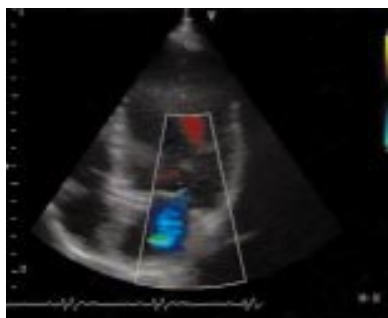
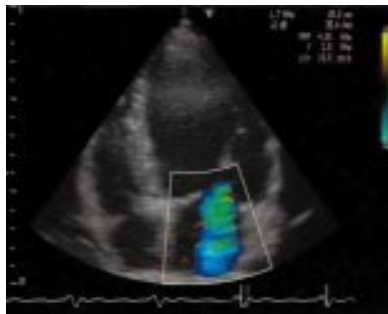
IMAGES IN CARDIOLOGY.....

Acute effects of resynchronisation treatment on functional mitral regurgitation in dilated cardiomyopathy

A 71 year old woman presented with severe shortness of breath (New York Heart Association (NYHA) functional class IV) despite optimised medical treatment (angiotensin converting enzyme inhibitor, β blocker, spironolactone, and digoxin). ECG revealed first degree atrioventricular (AV) block (PR interval 256 ms) and left bundle branch block (QRS duration 190 ms). Two dimensional echocardiography showed severe systolic dysfunction (biplane left ventricular ejection fraction 27%) and moderate to severe mitral regurgitation (upper panel, centre). Coronary artery disease was ruled out by coronary angiography. Cardiac resynchronisation therapy (CRT) was initiated with implantation of a biventricular pacemaker (Contak TR1241, Guidant, St Paul, Minnesota, USA), a right ventricular apical lead, and a left ventricular pacing lead (Guidant 4512) positioned in a posterolateral epicardial vein through the coronary sinus. The AV delay was programmed to 120 ms.

At the three months follow up, echocardiography demonstrated reduced severity of mitral regurgitation (lower panel, centre). Three dimensional transoesophageal echocardiographic reconstruction of the regurgitant jet by colour Doppler during atrial pacing (upper panel, right, and video sequence 1) and during CRT with atrioventricular pacing (lower panel, right, and video sequence 2) documented immediate reduction in severity of mitral regurgitation by CRT.

After an additional three months (six months follow up), the patient improved to NYHA functional class II. Maximal Vo_2 increased from 729 ml/min (12.1 Vo_2/kg) before implantation to 1161 ml/min (16.6 Vo_2/kg), plasma noradrenaline (norepinephrine) con-



centrations decreased from 524 ng/l to 355 ng/l, and end diastolic volume decreased from 222 ml to 163 ml.

This case highlights the potential of CRT to reduce functional mitral regurgitation in dilated cardiomyopathy. The effect is immediate and may contribute to improved exercise capacity and left ventricular reverse remodelling.

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