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Editor, JournalScan

ISCHAEMIC HEART DISEASE

Another cost effective treatment? n-3 Polyunsaturated fatty acids (n-3 PUFA) have a cost per life-year gained of about £15 000 based on the benefits shown in the GISSI Prevenzione trial. The authors conclude that this is comparable to simvastatin treatment and advocate the addition of n-3 PUFA therapy to treatments currently in use for secondary prevention after myocardial infarction.

1 Franzosi MG, Brunetti M, Marchioli R, Marfisi RM, Tognoni G, Valagussa F. Cost-effectiveness analysis of n-3 polyunsaturated fatty acids (PUFA) after myocardial infarction: results from Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto (GISSI)-Prevenzione trial. *Pharmacoeconomics* 2001;**19**:411–20.

PTCA or CABG? The ARTS trial: About 60% of patients treated by coronary angioplasty (PTCA) or bypass graft surgery (CABG) have multivessel disease which could feasibly be treated with either procedure. The ARTS (arterial revascularization therapies study) trial randomised 1205 such patients. The PTCA group has a high rate of stent (89%) use but glycoprotein IIb/IIIa inhibitors were used in less than 5% of cases. At one year, death and stroke rates were equivalent (91% event-free survival in both), but the PTCA group had more repeat procedures (16.8% *v* 3.5%). If death/myocardial infarction/stroke rates remain equivalent at later time points, would you rather be put on bypass once or on the "angio" table a number of times?

2 Serruys PW, Unger F, Sousa JE, Jatene A, Bonnier HJRM, Schonberger JPAM, Buller N, Bonser R, van den Brand MJB, van Herwerden LA, Morel M-A M, van Hout BA, for the Arterial Revascularization Therapies Study Group. Comparison of coronary-artery bypass surgery and stenting for the treatment of multivessel disease. *N Engl J Med* 2001;**344**:1117–24.

Older people are still being denied thrombolysis, but would they benefit? Even in ideal candidates (that is, ECG ST elevation, no cerebrovascular disease absolute contraindications, and presentation within 12 hours of symptoms), those aged 75–84 years were three times less likely and those older than 84 years were 10 times less likely to receive thrombolysis compared to patients younger than 55 years. Does this matter? Older patients are usually excluded from clinical trials, so good quality evidence is lacking. US registry data suggest that patients aged 65–74 years receiving thrombolysis for myocardial infarction (MI) gained the benefit expected from clinical trials, but for those above 75 years there was a survival disadvantage (38% increase in 30 day mortality). Trials comparing thrombolysis to placebo in patients over 75 years old are needed urgently.

3 Boucher J-M, Racine N, Thanh TH, Rahme E, Brophy J, LeLorier J, Théroux P. Age-related differences in in-hospital mortality and the use of thrombolytic therapy for acute myocardial infarction. *Can Med Assoc J* 2001;**164**:1285–90.

4 Thiemann DR, Coresh J, Schulman SP, Gerstenblith G, Oetgen WJ, Powe NR. Lack of benefit for intravenous thrombolysis in patients with myocardial infarction who are older than 75 years. *Circulation* 2000;**101**:2239–46.

Alcohol intake is associated with some benefit in heart failure and heart attack: Moderate alcohol intake is associated with a reduction in the risk of first MI. Two studies show that it may also reduce the mortality after first MI and the risk of heart failure. The mechanism is not clear.

5 Mukamal KJ, Maclure M, Muller JE, Sherwood JB, Mittleman MA. Prior alcohol consumption and mortality following acute myocardial infarction. *JAMA* 2001;**285**:1965–70.

6 Abramson JL, Williams SA, Krumholz HM, Vaccarino V. Moderate alcohol consumption and risk of heart failure among older persons. *JAMA* 2001;**285**:1971–7.

The advantages of admission to teaching hospitals: Although patients admitted to hospitals with invasive facilities were much more likely to undergo revascularisation (11.4% *v* 3.2% at other hospitals, $p < 0.001$), mortality rates were similar between the two institution types. In patients initially admitted to hospitals with invasive facilities the readmission was lower (71.3% *v* 80.4%, unadjusted odds ratio (OR) 0.65, $p < 0.001$). This advantage persisted after adjustment for social, demographic, and clinical factors and procedure utilisation (adjusted OR 0.68, $p < 0.001$). However, the non-fatal outcome advantages of hospitals with invasive facilities appeared to be explained by their teaching hospital status.

7 Alter DA, Naylor CD, Austin PC, Tu JV. Long-term MI outcomes at hospitals with or without on-site revascularization. *JAMA* 2001;**285**:2101–8.

Heparin-induced thrombocytopenia recurs quickly if you re-challenge early, but heparin can be used again if the culprit antibody has gone: Heparin induced thrombocytopenia (HIT) leads to thrombotic complications, related to the presence of antibodies to platelet factor 4. In 170 cases of HIT, 70% had not been previously exposed to heparin and the drop in platelets occurred after four days. However, in the 30% that had exposure to heparin within the last 100 days, HIT developed at a median of 10 hours. Seven patients had a repeat exposure after the disappearance of PF4 antibodies and did not redevelop HIT.

8 Warkentin TE, Kelton JG. Temporal aspects of heparin-induced thrombocytopenia. *N Engl J Med* 2001;**344**:1286–92.

Low oestrogen pills do not predispose to MI except in heavy smokers: Non-smokers taking the low dose oestrogen pill are not at increased risk of MI compared to non-pill taking non-smokers. However, the risk was significantly increased in smokers (OR 12, 95% confidence interval (CI) 8.6 to 16) and was even higher in pill taking smokers (OR 32, 95% CI 12 to 81).

9 Rosenberg L, Palmer JR, Rao RS, Shapiro S. Low-dose oral contraceptive use and the risk of myocardial infarction. *Arch Intern Med* 2001;**161**:1065–70.

Patients with MI and left ventricular dysfunction should have β blockade: Most cardiologists are convinced of the benefits of β blockers post-MI and in stable heart failure. The CAPRICORN trial looked at high risk post-MI patients (30% had intravenous diuretics). Carvedilol 6.25 mg once daily was started 3–21 days post-MI, when the patient was stable, and slowly titrated up to 25 mg twice daily. All cause mortality was reduced by 22% (12% *v* 15%, $p = 0.02$). This relative risk reduction is in keeping with previous post-MI β blocker trials.

10 The CAPRICORN Investigators. Effect of carvedilol on outcome after myocardial infarction in patients with left-ventricular dysfunction: the CAPRICORN randomised trial. *Lancet* 2001;**357**:1385–90.

GENERAL CARDIOLOGY

Black patients with heart failure may not gain the benefits of ACE inhibitor treatment: In heart failure, angiotensin converting enzyme (ACE) inhibitors reduce all cause mortality by 16–20% at five years. ACE inhibitors are less effective in lowering blood pressure in black patients, a fact confirmed in a recent analysis of the SOLVD (studies of left ventricular dysfunction) trials. An average of 15 mg/day enalapril reduced blood pressure in a matched white cohort of patients by 5/3 mm Hg, but not in

the 800 black patients with heart failure. The black patients had a worse prognosis (death rate 12.2 *v* 9.7/100 patient years) without treatment, and did not have the expected benefit on treatment despite similar compliance rates.

1 Exner DV, Dries DL, Domanski MJ, Cohn JN. Lesser response to angiotensin-converting-enzyme inhibitor therapy in black as compared with white patients with left ventricular dysfunction. *N Engl J Med* 2001; **344**:1351–7.

Prevent diabetes by weight loss: A western lifestyle begets diabetes, in part through weight increase and insulin resistance. A trial of 522 middle aged, overweight subjects (mean body mass index 31 kg/m^2) with impaired glucose tolerance attempted to vigorously encourage weight loss. The mean amount of weight lost between baseline and the end of year 1 was 4.2 kg *v* 0.8 kg in the control group, and 3.5 kg *v* 0.8 kg at two years. The incidence of diabetes was reduced by 58% at four years (11% *v* 23%). Weight loss should be recommended even more vigorously now.

2 Tuomilehto J, Lindstrom J, Eriksson JG, Valle TT, Hamalainen H, Ilanne-Parikka P, Keinanen-Kiukaanniemi S, Laakso M, Louheranta A, Rastas M, Salminen V, Uusitupa M, for the Finnish Diabetes Prevention Study Group. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Engl J Med* 2001;**344**:1343–50.

Echocardiography is not very useful in diagnosing pulmonary embolism: If right ventricular (RV) dilatation, elevated tricuspid regurgitation velocity or RV systolic dysfunction are used to decide the presence of a pulmonary embolism, they are quite specific (90%) but miss 50% of cases. The unsurprising conclusion of this study is that echo plus clinical criteria are not good enough in excluding pulmonary embolism.

3 Miniati M, Monti S, Pratali L, Di Ricco G, Marini C, Formichi B, Prediletto R, Michelassi C, Di Lorenzo M, Tonelli L, Pistolesi M. Value of transthoracic echocardiography in the diagnosis of pulmonary embolism: results of a prospective study in unselected patients. *Am J Med* 2001;**110**:528–35.

Spironolactone and ACE inhibitors—a warning: There is a risk associated with using two potassium sparing agents together. Of 25 cases of hyperkalaemia associated with these two medications, 17 needed haemodialysis, and two died. Older age (> 70 years) was the factor most commonly present in those with poor outcome. Care has to be exercised when adding spironolactone to ACE inhibitor, although in the original RALES (randomized Aldactone evaluation study) trial only 1–2% of cases got hyperkalaemia.

4 Schepkens H, Vanholder R, Billiouw J-M, Lameire N. Life-threatening hyperkalemia during combined therapy with angiotensin-converting enzyme inhibitors and spironolactone: an analysis of 25 cases. *Am J Med* 2001;**110**:438–41.

5 Pitt B, Zannad F, Remme WJ, Cody R, Castaigne A, Perez A, Palensky J, Wittes J. The effect of spironolactone on morbidity and mortality in patients with severe heart failure. *N Engl J Med* 1999;**341**:709–17.

Commotio cordis: a German invention: Sudden impact to the front of the chest can cause sudden cardiac arrest, and seems to occur most often in young males engaged in sports. However, although most of the recent literature is from the USA, this article highlights the fact that this condition is another which was studied (in Germany as early as the 1870s), forgotten, and then rediscovered.

6 Nesbitt AD, Cooper PJ, Kohl P. Rediscovering commotio cordis. *Lancet* 2001;**357**:1195–7.

Small size at birth: pre-ordained to have coronary heart disease: The Barker hypothesis is further expounded in this paper which suggests that low weight, head circumference, and body mass index at birth and one year predict greater risk of death from coronary heart disease. How? The authors suggest that low birth weight reflects a lack of muscle, and so may lead to insulin resistance.

7 Eriksson JG, Forsén T, Tuomilehto J, Osmond C, Barker DJP. Early growth and coronary heart disease in later life: longitudinal study. *BMJ* 2001;**322**:949–53.

BASIC RESEARCH

Right ventricular cardiomyopathy—a single protein defect? Mutations of cytoskeletal proteins have previously been shown to be associated with cardiomyopathy, but how the gene links to the phenotype has been hard to elucidate. Mice lacking in *Alp* (α actinin-associated LIM protein) develop right ventricular cardiomyopathy. This protein has been shown to enhance directly the cross linking of actin filaments. Lack or dysfunction would clearly lead to cardiac dysfunction.

1 Pashmforoush M, Pomiès P, Peterson KL, Kubalak S, Ross J Jr, Hefti A, Aebi U, Beckerle M, Chien KR. Adult mice deficient in actinin–associated LIM-domain protein reveal a developmental pathway for right ventricular cardiomyopathy. *Nature Med* 2001;**7**:591–7.

Journals scanned—American Journal of Medicine; American Journal of Physiology: Heart and Circulatory Physiology; Annals of Emergency Medicine; Annals of Thoracic Surgery; Annals of Internal Medicine; Archives of Internal Medicine; BMJ; Canadian Medical Association Journal; 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 Lambiese, V Markides, M Poullis, P Ramrakha, J Strange, B Wasan, H Walker.