Ischaemic heart disease

Stent or surgery? ► The stent or surgery (SoS) trial has finally been published. Its findings are well known, and suggest that stenting in multivessel disease does not result in more deaths/myocardial infarction (MI) than coronary artery bypass surgery (CABG). However, by one year, 17% of those treated with stents have needed another procedure compared to only 4% in the CABG arm. There was an increase in deaths in the coronary angioplasty (PTCA) arm, but this was related to an excess of cancer deaths which was almost certainly a play of chance. The trial does not offer information on diabetic patients, however, as there were few in either arm.


RITA-3: a call for more coronary intervention ► In a randomised trial of 1810 patients with non-ST elevation acute coronary syndromes, patients were assigned an early intervention (97% angiography, 57% revascularised at one year) or conservative strategy (50% had angiography, 28% revascularised at one year). At four months, 86 (9.6%) of 955 patients in the intervention group had died or had a myocardial infarction or refractory angina, compared with 133 (14.5%) of 915 patients in the conservative group (risk ratio 0.66, 95% confidence interval [CI] 0.51 to 0.85, p = 0.001). This difference was due mainly to a halving of refractory angina in the intervention group. Death or myocardial infarction was similar in both treatment groups at one year (68 (7.6%) vs 76 (8.3%), respectively; risk ratio 0.91, 95% CI 0.67 to 1.25, p = 0.58). Overall the RITA-3 population was at lower risk than in other similar trials (8% one year death/MI rate vs 14.1% in FRISC-II, and 14.1% in TIM-38), but if the new World Health Organization criteria for diagnosing AMI are used, a significant reduction would be seen in the composite of death/MI in the invasive arm at one year (12.5% vs 17.1%, p < 0.007).


Keep losartan for those who cannot tolerate ACE inhibitors post-MI ► In a randomised trial of losartan 50 mg once daily versus captopril 50 mg three times daily after larger MI, there was no mortality difference detected at 27 years (16% in the captopril arm, 18% in the losartan arm, p = 0.07). However, losartan was much better tolerated. Just as there is no trial which has shown that angiotensin II receptor blockers (ARBs) are better than angiotensin converting enzyme (ACE) inhibitors in heart failure, so there are none in the post-MI population. Stick with ACE inhibitors for now. Hopefully a trial will soon answer the question as to whether ARBs should be added to ACE inhibitors.


A false ray of hope for thrombolysis? ► Just when it seemed that primary angioplasty had won out over thrombolysis for acute MI, a study seems to suggest otherwise. In 840 patients who had ST elevation MI and presented < 6 hours after onset of pain, there was no significant mortality reduction with primary angioplasty. However, there was a trend towards it, and the trial was underpowered to refute the 30–40% reduction in mortality seen in previous trials. The mortality in this trial (3.5% at 30 days) is much lower than in the previous comparisons between PTCA and fibrinolysis (7% in the lysis arm). From a meta-analysis of trials, for every 1000 patients treated with primary angioplasty rather than thrombolytic therapy, an additional 20 lives are saved, 43 reinfarctions are prevented, 10 less strokes occur, and 13 intracranial haemorrhages are avoided. Benefit has been shown for PTCA in the DANAMI-2 trial even if there is a three hour delay to get to the cath lab.


► Andersen HR. Danish multicenter randomized trial on thrombolytic therapy versus acute coronary angioplasty in acute myocardial infarction (DANAMI-2). American College of Cardiology Annual Scientific Session, Atlanta, GA, USA, 20 March 2002.

Active rheumatoid arthritis produces an adverse lipid profile even without steroid treatment ► Inflammatory disease increases long term cardiovascular risk by increasing endothelial dysfunction in the coronary tree. However, this study suggests that active rheumatoid arthritis is also associated with lowering of HDL and a worse LDL/HDL ratio, that improves with response to treatment.


Stop smoking and reduce recurrent MI risk to baseline in 3 years ► About a third of admissions for MI are smokers, a third ex-smokers, and a third non-smokers. Of the smokers, over 50% give up after the MI. Comparing 449 quitters to 359 persistent smokers and to a group of non-smokers showed risk of recurrent events was highest in persistent offenders [relative risk (RR) 1.51, 95% CI 1.10 to 2.07]. Quitters had an elevated recurrence risk in the first six months (RR 1.60, 95% CI 0.97 to 2.6) but this reduced to that of non-smokers by three years (RR 1.02, 95% CI 0.54 to 1.86).


A method to handle non-cardiac chest pain ► Two thirds of chest pain referrals to the outpatients department and about half of those in the emergency room have non-cardiac chest pain. This can cause significant morbidity. The authors rightly suggest that a definitive answer given quickly reduces the psychological burden, and that initiation of antianginals when the diagnosis has not been confirmed may be detrimental in the longer term.


Warfarin or aspirin after MI? ► In a randomised, multicentre trial in 3630 patients, 1216 received warfarin (international normalised ratio (INR) 2.8 to 4.2), 1206 received aspirin (160 mg daily), and 1208 received aspirin (75 mg daily) combined with warfarin (INR 2.0 to 2.5). Results suggest a small but definite advantage to being on warfarin and a more pronounced one for warfarin combined with aspirin compared to aspirin alone. The median follow-up of the entire group was four years. Rate for non-fatal reinfarction/thromboembolic cerebral stroke occurred in
20% of patients receiving aspirin, 16.7% receiving warfarin (RR v aspirin only 0.81, 95% CI 0.69 to 0.95; p = 0.03), and 15% receiving warfarin and aspirin (RR v aspirin 0.71, 95% CI 0.60 to 0.83; p = 0.001). Episodes of major, non-fatal bleeding were observed in 0.62% of patients per treatment-year in both groups receiving warfarin and in 0.17% of patients receiving aspirin (p < 0.001).

Walking and vigorous exercise are good for you ▶ How much exercise do you have to do to gain cardiovascular benefit? Total physical activity score, walking, vigorous exercise, and hours spent sitting were used as predictors of the incidence of coronary events and total cardiovascular events among 73,743 postmenopausal women 50–79 years of age in the women’s health initiative observational study. In multivariate analyses, the inverse gradient between the total MET score and the risk of cardiovascular events was strong (adjusted relative risks for increasing quintiles, 1.00, 0.89, 0.81, 0.78, and 0.72, respectively; p for trend < 0.001). Walking and vigorous exercise were associated with similar risk reductions, and the results did not vary substantially according to race, age, or body mass index.

Intramural aortic hematoma could be managed medically ▶ Dissection involving the ascending aorta has a mortality with surgery of 25% and with medical treatment of more than 60%. Intramural haematomas can be seen without obvious intimal flaps or flow in the false lumen of contrast with transoesophageal echocardiography and computed tomography scanning in 10–17% of cases of suspected dissection. The present study found haematomas in 27% of cases. Those involving the ascending aorta have an in-hospital mortality of 7% versus 1% for the descending aorta. Previous studies suggest a 47% mortality in proximal haematomas treated medically, perhaps as it is probable that in the previous study only larger ones were spotted and included. Although 25% developed dissection, deferring surgery did not appear detrimental, and resorption occurred in 70%.

Defibrillators everywhere or more ambulance crews? ▶ Of 15,189 cardiac arrests in Scotland from 1991 to 1998, 12,004 (79.0%) occurred in sites not suitable for the location of public access defibrillators, 453 (3.0%) in sites where they may be suitable, and 2,732 (18.0%) in suitable sites. Defibrillation was given in 67.9% of arrests that occurred in possibly suitable sites for locating defibrillators and in 72.9% of arrests that occurred in suitable sites. Compared with an actual overall survival of 744 (5.0%), the predicted survival with public access defibrillators ranged from 942 (6.3%) to 959 (6.5%), depending on the assumptions made regarding defibrillator coverage. This small gain would come at a very large expense. Thus, it is probably more cost effective to have more trained paramedics.

Inhibiting “survivin” may be a future way of reducing restenosis after PTCA ▶ Apoptosis limits the accumulation of cells. This group showed that a controller of apoptosis, the “survivin” protein, is also present after wire injury of a rabbit artery. Inhibition of the protein reduces cell proliferation, and reduced neointimal growth.

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