

JournalScan

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Ischaemic heart disease

The polypill for all >55 years old ▶ The polypill strategy, based on a single daily pill containing six components for all of the population over 55 years old, would prevent 88% of heart attacks and 80% of strokes. About one in three people would directly benefit, each on average gaining 11–12 years of life without a heart attack or stroke (20 years in those aged 55–64). This is based on estimates of the beneficial effects of aspirin, statin, triple antihypertensive therapy, and folic acid. The authors suggest that the data is robust, but before the whole population is treated, a trial versus the known best treatment (taking a statin a day whatever your cholesterol!) would be warranted.

▲ **Wald NJ**, Law MR. A strategy to reduce cardiovascular disease by more than 80%. *BMJ* 2003;326:1419–23.

HAART may not be as bad for the heart as once thought

Before treatment, HIV infection results in substantial decreases in serum total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), and low density lipoprotein cholesterol (LDL-C) concentrations. Subsequent highly active anti-retroviral therapy (HAART) initiation is associated with increases in TC and LDL-C but little change in HDL-C. Increases in TC and LDL-C observed after about three years of HAART possibly represent a return to preinfection serum lipid values after accounting for expected age related changes.

▲ **Riddler SA**, Smit E, Cole SR, Li R, Chmiel JS, Dobs A, Palella F, Visscher B, Evans R, Kingsley LA. Impact of HIV infection and HAART on serum lipids in men. *JAMA* 2003;289:2978–83.

Treatment of AMI is improving (slowly) ▶ US patients with acute myocardial infarction (AMI) between 1994–95 (n = 234 754 discharges) and 1998–99 (n = 35 713 discharges) were compared. Discharge β blocker prescription increased from 50.3% to 70.7%; discharge angiotensin converting enzyme (ACE) inhibitor prescription for systolic dysfunction increased from 62.8% to 70.8%. The rate of acute reperfusion therapy stayed at 60%. This leaves 40% of eligible candidates still not receiving thrombolysis or primary coronary angioplasty (PTCA).

▲ **Burwen DR**, Galusha DH, Lewis JM, Bedinger MR, Radford MJ, Krumholz HM, Foody JM. National and state trends in quality of care for acute myocardial infarction between 1994–1995 and 1998–1999: the Medicare health care quality improvement program. *Arch Intern Med* 2003;163:1430–9.

CRP may not add much in elderly people ▶ In multiple studies C reactive protein (CRP) concentrations appear to add additional information to traditional risk factors in predicting coronary heart disease events. In this study of patients over 55, however, no such benefit appears to have been seen. It may be that CRP is “swamped” and reflects the inflammatory effects of these standard risk factors rather than the lower level of inflammation present in younger patients.

▲ **van der Meer IM**, de Maat MPM, Kiliaan AJ, van der Kuip DAM, Hofman A, Witteman JCM. The value of C-reactive protein in cardiovascular risk prediction: the Rotterdam study. *Arch Intern Med* 2003;163:1323–8.

Watching smoking can harm you ▶ Exposure to smoking in movies has been linked with adolescent smoking initiation in cross-sectional studies. In 3547 children, aged 10–14 years, who had never tried smoking, 10% (n = 259) started smoking during the follow up period. In the highest quartile of exposure to movie

smoking, 17% (107) of students had initiated smoking, compared with only 3% (22) in the lowest quartile. After controlling for baseline characteristics, adolescents in the highest quartile of exposure to movie smoking were 2.71 (95% confidence interval (CI) 1.73 to 4.25) times more likely to initiate smoking compared with those in the lowest quartile. The effect of exposure to movie smoking was stronger in adolescents with non-smoking parents than in those whose parent smoked. In this cohort, 52.2% (95% CI 30.0 to 67.3) of smoking initiation can be attributed to exposure to smoking in movies.

▲ **Dalton MA**, Sargent JD, Beach ML, Titus-Ernstoff L, Gibson JJ, Ahrens MB, Tickle JJ, Heatherton TF. Effect of viewing smoking in movies on adolescent smoking initiation: a cohort study. *Lancet* 2003;361: on line.

Hypertension

Using low doses of several drugs may be better than high doses of one ▶ Meta-analysis of 354 randomised double blind placebo controlled trials of thiazides, β blockers, ACE inhibitors, angiotensin II receptor antagonists, and calcium channel blockers in fixed dose suggests that they are all equally effective at standard doses (blood pressure (BP) lowering 9.1/5.5 mm Hg), and more effective at higher doses. However, the side effects also increase in a dose related manner, except with ACE inhibitors and maybe angiotensin II receptor blockers. Combination of two or three drugs at half strength may be better tolerated and more effective.

▲ **Law MR**, Wald NJ, Morris JK, Jordan RE. Value of low dose combination treatment with blood pressure lowering drugs: analysis of 354 randomised trials. *BMJ* 2003;326:1427–31.

24 hour BP monitoring may add information to the clinic BP measurement ▶ Previous data suggest that raised 24 hour BP readings are predictive of adverse cardiovascular events in a similar way to clinic BP. This study looked at treated hypertensive patients. Adjusting for many possible variables, the systolic and diastolic BPs over 24 hours were independently predictive of worse outcome. Perhaps 24 hour BP will become the new standard to assess treatment of hypertension.

▲ **Clement DL**, De Buyzere ML, De Bacquer DA, *et al* for the Office versus Ambulatory Pressure Study Investigators. Prognostic value of ambulatory blood-pressure recordings in patients with treated hypertension. *N Engl J Med* 2003;348:2407–15.

General cardiology

Enalapril prolongs life by 9 months if taken for 3–4 years

▶ Twelve year follow up of the SOLVD trials suggests persistent benefit in the groups treated with enalapril. In the heart failure prevention arm, 50.9% (1074/2111) of the enalapril group had died compared with 56.4% (1195/2117) of the placebo group (generalised Wilcoxon p = 0.001). In the treatment trial, 79.8% (1025/1285) of the enalapril group had died compared with 80.8% (1038/1284) of the placebo group (generalised Wilcoxon p = 0.01). When data for the prevention and treatment trials were combined, the hazard ratio for death was 0.90 for the enalapril group compared with the placebo group (95% CI 0.84 to 0.95, generalised Wilcoxon p = 0.0003). Enalapril extended median survival by 9.4 months in the combined trials (95% CI 2.8 to 16.5, p = 0.004).

▲ **Jong P**, Yusuf S, Rousseau MF, Ahn SA, Bangdiwala SI. Effect of enalapril on 12-year survival and life expectancy in patients with left ventricular systolic dysfunction: a follow-up study. *Lancet* 2003;361:1843–8.

Survivors of resuscitation do well ▶ Of 200 patients who presented with an out-of-hospital cardiac arrest with ventricular fibrillation, 145 (72%) survived to hospital admission (seven died in the

emergency department) and 79 (40%) were neurologically intact (good overall capability or moderate overall disability) at discharge. The mean (SD) length of follow up was 4.8 (3.0) years. Nineteen patients died after discharge from the hospital. The expected five year survival rate (79%) was identical to that among age, sex, and disease matched controls ($p = 0.68$), but lower than that among the age and sex matched US population (86%, $p = 0.02$). Their quality of life was also good.

▲ **Bunch TJ**, White RD, Gersh BJ, Meverden RA, Hodge DO, Ballman KV, Hammill SC, Shen W-K, Packer DL. Long-term outcomes of out-of-hospital cardiac arrest after successful early defibrillation. *N Engl J Med* 2003;**348**:2626–33.

Basic science

Genes for essential hypertension ► In the Medical Research Council British Genetics of HyperTension (BRIGHT) study, a genome scan for hypertension in a large white European population was performed. A total of 2010 affected sibling pairs were drawn from 1599 severely hypertensive families. A 10 centimorgan genome-wide scan was performed. Linkage analysis identified a principle locus on chromosome 6q, with an lod score of 3.21 that attained genome-wide significance ($p = 0.042$). The inclusion of three further loci with lod scores higher than 1.57 (2q,

5q, and 9q) also show genome-wide significance ($p = 0.017$). These findings imply that human essential hypertension has an oligogenic element (a few genes may be involved in determination of the trait) possibly superimposed on more minor genetic effects, and that several genes may be tractable to a positional cloning strategy.

▲ **Caulfield M**, Munroe P, Pembroke J, *et al* for The MRC British Genetics of Hypertension Study. Genome-wide mapping of human loci for essential hypertension. *Lancet* 2003;**361**:2118–23.

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

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IMAGES IN CARDIOLOGY

A rare cause of coronary obstruction and angina pectoris

A 47 year old woman presented with characteristic exertional angina pectoris. She was previously healthy with an active lifestyle. She did not have any cardiac risk factors. Physical examination, chest x ray, ECG, and cardiolyte scan were unremarkable. Symptomatic progression over the following months led to cardiac catheterisation which demonstrated subtotal right coronary artery occlusion and 60–70% ostial left main trunk stenosis (below left) During subsequent coronary artery bypass surgery a large, firm peri-aortic mass partially encasing the main pulmonary artery, the right ventricular outflow tract, and the right atrium was identified. Histologic examination revealed dense collagenous fibrosis with scattered chronic inflammatory cells and fibrin deposition. No granulomas or malignant cells were identified (below centre) Inability to cannulate the aorta required off pump right internal mammary bypass to right coronary artery and left internal mammary bypass to left anterior descending artery. Postoperatively the patient's symptoms resolved. Cardiothoracic magnetic resonance imaging showed fibrous tissue

surrounding the aortic root (below right). The diagnosis of idiopathic fibrosing mediastinitis was confirmed pathologically.

Manifestations of fibrosing mediastinitis include tracheo-bronchial compression, oesophageal obstruction, and recurrent laryngeal and phrenic nerve injury. Cardiovascular involvement usually presents with pulmonary hypertension, superior vena cava syndrome or constrictive pericarditis. Surprisingly our patient presented exclusively with ischaemic heart disease. Absence of established risk factors for coronary artery disease requires clinicians to expand their differential diagnosis. In patients with primarily ostial coronary stenosis a congenital fibrous ridge, syphilitic arteritis, Takayasu's arteritis, methysergide related fibrosis, radiation fibrosis, and fibrosing mediastinitis should be considered in the differential diagnosis.

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