All you need to read in the other general medical journals
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"To me, successful ageing would mean doing as much as possible that is both fun and useful in the time left, followed by dropping dead at an appropriate moment"

Read Richard Lehman's blog at bmj.com/blogs

Dozens of autoimmune diseases linked to pulmonary embolism

Researchers have confirmed a powerful association between autoimmune diseases and venous thromboembolism, in a study covering the adult population of Sweden. Adults admitted to hospital with any one of 33 different autoimmune diseases at any time between 1964 and 2008 had a significantly higher risk of pulmonary embolism than the general population in fully adjusted analyses. Risks were highest in the first year after admission and seemed to fall over time, possibly because treatment helped control the inflammatory processes thought to create a procoagulant state, say the authors.

Standardised incidence ratios for pulmonary embolism were highest in the year after admission for immune thrombocytopenic purpura (10.79, 95% CI 7.98 to 14.28), polyarteritis nodosa (13.26, 9.33 to 18.29), polymyositis or dermatomyositis (16.44, 11.57 to 22.69), systemic lupus erythematosus (10.23, 8.31 to 12.45), and ulcerative colitis (10.26, 9.03 to 11.62). Other common autoimmune diseases, including rheumatoid arthritis and type 1 diabetes, were not far behind.

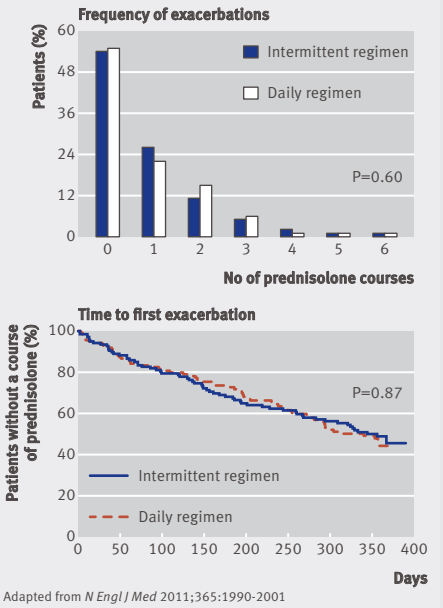
Sweden's many national databases are famously comprehensive and can be linked using a personal number unique to every citizen. They are a great resource for epidemiologists looking to add power and confidence to previous smaller analyses. These authors studied more than half a million patients with autoimmune diseases, and 15 607 with pulmonary embolism. They weren't able to explore the role of drugs, immobilisation in hospital, or common cardiovascular risk factors such as smoking. But a causal link between autoimmune disease and venous thromboembolism remains likely, they write. Researchers could now investigate the possibility of prophylaxis for people with the riskiest diseases.

Lancet 2011; doi:10.1016/S0140-6736(11)61306-8

Intermittent inhaled budesonide works fine for young children with recurrent wheeze

Regular inhaled glucocorticoids are recommended for preschool children with recurrent wheeze and a high risk of persistent asthma, but parents and doctors still worry about the possibility of growth impairment. Intermittent treatment, started at the first sign of a respiratory illness, worked equally well in a trial from the US and cut exposure to inhaled glucocorticoids by around two thirds.

Exacerbations by treatment group



Adapted from *N Engl J Med* 2011;365:1990-2001

Children aged 12-53 months were given 0.5 mg of inhaled budesonide every day for a year, or 2 mg a day for seven days from the start of a respiratory tract infection. The two groups had similar numbers of exacerbations that needed prednisolone (relative rate in the intermittent group 0.99 exacerbations per patient year, 95% CI 0.71 to 1.35). They also had a similar number of respiratory infections and needed a similar number of healthcare visits for asthma. Children treated intermittently had 104 mg (95% CI 92 to 116) less inhaled budesonide during the year than controls (46 mg *v* 150 mg).

Parents decided when to start intermittent treatment and were taught how to recognise trigger symptoms. The strategy seemed to work. International guidelines should at least consider it for children with a similar clinical profile, say the authors. The 278 children in this trial had around six episodes of wheezing in the year before recruitment, around five emergency visits to doctors, and at least one course of oral prednisolone. Three quarters had been diagnosed with asthma by a doctor, and most were already using inhaled glucocorticoids, but they had few symptoms between wheezing episodes.

N Engl J Med 2011;365:1990-2001

Imaging is no substitute for autopsy

Radiological imaging after death is a poor substitute for a full autopsy, say researchers, who did both in an unselected series of 182 cases and compared the findings. Radiology reports disagreed with findings from a full autopsy in about a third of cases, although computed tomography alone looked more reliable than magnetic resonance imaging alone (proportion with major discrepancies 32% (95% CI 26% to 40%) *v* 43% (36% to 50%)).

Postmortem imaging missed all 10 cases of pulmonary embolus, nine of 28 cases of bronchopneumonia, four of six intestinal infarctions, and 12 of 86 deaths from coronary heart disease. Imaging overdiagnosed coronary heart disease too (15/95).

Each case had whole body computed tomography and magnetic resonance imaging, reported independently, then together by at least two radiologists. Discrepancies between imaging and autopsy findings were less common when radiologists were confident about the cause of death (discrepancy rate 16% for computed tomography alone, 21% for magnetic resonance imaging alone, and 16% for combined reports). Regular death certificates are no more accurate than this, say the authors. So imaging might be good enough, some of the time, to satisfy a coroner. One fifth of deaths in the UK are followed by an autopsy, many mandated by law to rule out an unnatural cause.

Autopsy standards are notoriously variable, says a linked comment (doi:10.1016/S0140-6736(11)61584-5). We should aim to do fewer compulsory autopsies, and to do them better. Imaging might be useful in selected cases, but it has clear limitations, including lack of access to real tissue for histological examination.

Lancet 2011; doi:10.1016/S0140-6736(11)61483-9

Vena cava filters that fracture after a few years

Filters placed in the inferior vena cava are widely used to protect vulnerable patients from life threatening pulmonary emboli, and many remain in place for years. When a team from Japan used sophisticated three dimensional imaging to check one brand of filter in 20 patients they found that half the filters had developed fractures in vertical

struts (10/20). The filters were placed between 2002 and 2006, and were one to eight years old when the images were taken. Nine of the 10 fractures were in filters that were at least four years old. All fractures looked like they had been caused by pressure from surrounding structures, usually vertebral osteophytes. A tortuous aorta was also implicated in three patients.

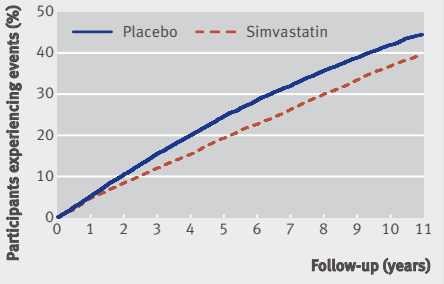
The popular TrapEase filters given to these patients are clearly prone to fracture after a few years, say the report's authors, and the problem may not be confined to this brand, which is designed to be left in place permanently.

None of the patients in this series came to any harm, although other teams have reported isolated cases of cardiac tamponade and ventricular tachycardia caused by embolisation of fractured struts. Patients with permanent filters need careful monitoring long term, and retrievable brands should be taken out whenever possible, they write. In another recent series from the US, retrieval of filters was attempted in only a third (97/289) of cases during a mean follow-up of 2.3 years.

Arch Intern Med 2011; doi:10.1001/archinternmed.2011.548
Arch Intern Med 2011;171:1953-5

Further reassurance about the long term safety of statins

Major vascular events during extended follow-up



Adapted from *Lancet* 2011; doi 10.1016/S0140-6736(11)61125-2

Further reassurance about the long term safety of statins has emerged from extended follow-up of more than 20 000 patients who took part in a placebo controlled trial of simvastatin. The drug reduced concentrations of low density lipoprotein-cholesterol and prevented major vascular events during the trial, which lasted five years. The authors now report no extra cancers (risk ratio 0.98 95% CI 0.92 to 1.05), cancer deaths (1.01, 0.92 to 1.11), or deaths from any other non-vascular cause (0.96 0.89 to 1.03) in the simvastatin group, either during the trial or for six years after it ended.

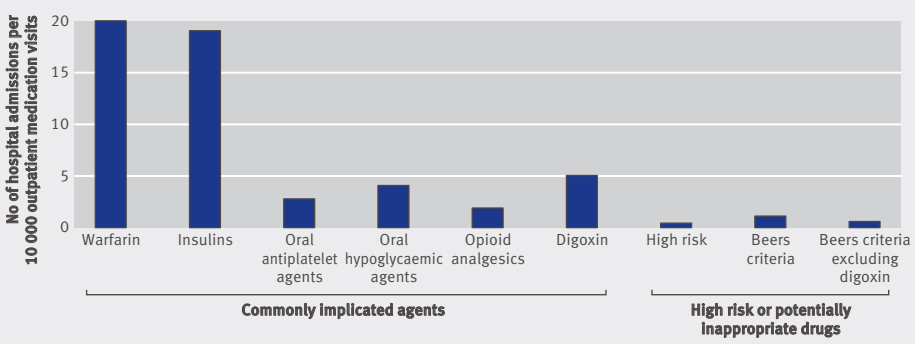
The statin looked safe, even for adults over 70 years and those with a low (<5 mmol/L) concentration of total cholesterol at the start of the trial. Most participants eventually took statins after the trial ended, but the original benefits of the first five years of treatment persisted unchanged for at least six years.

Lingering doubts about cancers should now be laid to rest, says a linked comment (doi:10.1016/S0140-6736(11)61544-4). These findings follow equally reassuring long term analyses from other large trials. Statins are a life saving treatment for people at high risk of cardiovascular events. The benefits seem to endure for years, and non-vascular risks, including cancers, are unlikely to emerge now.

The original concerns came from observational studies that were probably heavily confounded, says the comment.

Lancet 2011; doi:10.1016/S0140-6736(11)61125-2

Emergency hospital admissions for adverse drug events



Adapted from *N Engl J Med* 2011;365:2002-12

Warfarin is the leading cause of adverse drug events in older Americans

Close to 100 000 older adults are admitted to US hospitals each year with adverse events caused by therapeutic drugs, according to the latest estimates. Warfarin alone was responsible for a third of admissions (33.3%, 95% CI 28.0 to 38.5) in a study that analysed surveillance data from emergency departments between 2007 and 2009. Oral antiplatelet agents (13.3%, 7.5% to 19.1%), insulins (13.9%, 9.8% to 18%), and oral hypoglycaemic agents (10.7%. 8.1% to 13.3%) were also heavily implicated.

These three drug classes plus warfarin accounted for two thirds of admissions for adverse drug events during the study period, most commonly unintentional overdose resulting in haemorrhage or hypoglycaemia.

Drugs classified as high risk by one US national agency, or classified as potentially inappropriate by Beers criteria, were responsible for far fewer adverse events than anticoagulants and antidiabetic drugs (1.2% of admissions, 0.7% to 1.7%). Current drug safety policies may be missing their target, say the authors.

These new figures suggest that more older people are admitted each year for adverse drug events than are admitted for dementia. More than 21 000 are admitted with warfarin related haemorrhages alone. The costs are high—for the patient and for the state—say the authors.

N Engl J Med 2011:365:2002-12

Internet modules on secondary prevention do little for doctors or patients

Improving doctors' performance enough to have a clinically meaningful effect on patients' health is notoriously difficult. Many more or less intensive interventions have been tried, with only modest success. The latest—a carefully designed web based programme of education for primary care doctors in the US—had no discernible impact on patients with heart disease, although it did (just) encourage participating doctors to prescribe significantly more β blockers.

Only half the doctors in this cluster randomised trial used the comprehensive resource available to them. Those who did use the site visited it fewer than four times over 18 months and completed a mean of three modules out of eight. The authors also blame a strong performance by doctors from control clinics, who were given links to a variety of guidelines instead.

Secondary prevention of cardiovascular disease, the focus of this trial, is one of the most important goals in healthcare, says an editorial (p 1917), and many of the essentials are already in place. We know who these patients are (or can find them easily). We know what they need. Effective strategies are readily available. The problem is delivery. New and better ways to motivate, educate, and engage doctors must be developed, alongside similar interventions to motivate, educate, and engage their patients. Effective prevention of cardiovascular disease requires two equally active and well informed partners.

Arch Intern Med 2011;171:1910-7

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