Short cuts

What's new in the other general journals

Big US sports leagues screen their players for heart disease

Sudden unexpected deaths among elite professional athletes are rare, but do professional clubs do anything to try and prevent them? The American Heart Association recommends a thorough history, family history, and physical examination for all athletes before they compete, and a survey of all 122 US teams from the basketball, hockey, football, and baseball leagues shows that most of them make a reasonable effort to identify any athletes with potentially life threatening conditions such as cardiomyopathies, Marfan's syndrome, or coronary heart disease. All the athletes in the teams surveyed were interviewed and examined every year by a team doctor, and almost all of them had blood tests for serum lipids (108/122 (89%) of teams) and an electrocardiogram (112/122 (92%)). Fewer than one in five of the teams screened their athletes using echocardiography or stress testing, however, and the most comprehensive screening strategies were reserved for elite basketball players.

There's only limited evidence that screening athletes actually saves lives. The best comes from Italy, where screening based on history, examination, and electrocardiography has been mandatory for all competing athletes since 1982. The incidence of sudden cardiovascular death among screened athletes in the Veneto region has since fallen from 3.6/100 000 person-years to 0.4/100 000 person-years (test for trend, $P < 0.001$), driven largely by fewer deaths from cardiomyopathy (*JAMA* 2006;296:1593-601).

Ann Int Med 2006;145:507-11

Diagnostic errors are a common cause of litigation among US outpatients

In the outpatient setting, diagnostic mistakes that harm patients are common, complex, and deadly, according to a study of malpractice claims from four big US medical insurers. Missed, delayed, or wrong diagnoses that directly harmed the patient accounted for 59% (181/307) of all claims made by outpatients, and 30% resulted in death. Failure to take a proper history and examination, order the right test, or follow up the patient properly were the commonest diagnostic mistakes. Patients with cancer, usually breast or colorectal, were the commonest claimants. Primary care doctors were involved in 42% (76/181) of claims that alleged harm caused by diagnostic error.

The science of patient safety outside hospitals is still in its infancy, but it's already clear that diagnostic mistakes will be hard to eradicate. Doctors not thinking straight, making bad decisions, forgetting things, or not knowing them in the first place were a common theme in these claims—99% (179/181) cited one or more of these factors—but so were systems failures such as poor communication (30%, 55/181) and inadequate handovers (20%, 36/181). Most mistakes were the result of multiple breakdowns in the diagnostic process stretching over months or years and typically involving more than one healthcare worker. "The prospects for 'silver bullets' in this area seem remote," say the authors.

Ann Int Med 2006;145:488-96

MRI scans are a useful tool in children with cerebral palsy

All children with cerebral palsy should undergo magnetic resonance imaging of their brain, say a European team of researchers. In their cross sectional study of 431 children, abnormalities revealed by the scans helped explain the pathological basis of the children's disabilities and gave parents and doctors clues about what might happen in the future. White matter damage, including periventricular leucomalacia and periventricular haemorrhage, was the commonest abnormality in this mixed population of children (149/351, 42%). This kind of abnormality was associated with prematurity (three quarters of those with white matter damage were born early) and with bilateral spastic cerebral palsy. Children with the most extensive abnormalities had the most serious disabilities.

Possibly the most striking finding, however, was that 40% (158/400) of mothers with affected children said that they had had an infection during pregnancy: specifically, 19% reported a urinary tract infection, and 16% had taken antibiotics. For comparison, the authors examined routine data from one area of London and found an incidence of urinary tract infection during pregnancy of only about 3%. This is a lead worth following in the search for preventive strategies against cerebral palsy, say the authors.

JAMA 2006;296:1602-8

Don't rush to set up rapid response teams for deteriorating inpatients

Rapid response teams that run to the patient's bedside and rescue them from rapid deterioration, cardiac arrest, and death are one popular answer to the clamour for better patient safety in US hospitals. Influential organisations have already endorsed the idea in principle and are busy encouraging hospitals to implement rapid response programmes as a national lifesaving priority. But do they work?

An article by three critical care experts says it's much too early to tell and urges policy makers to pause for thought (and more research) before rushing headlong to buy an unproved intervention. Although 10 comparative studies have evaluated rapid response teams, only two are randomised trials, it says. The biggest trial, which included more than 100 000 patients, found that rapid response teams did not save lives or

prevent cardiac arrests. So this complex intervention may not work at all. Even if it does, it may work no better than cheaper and easier options such as teaching the staff on general hospital wards to recognise the early signs of clinical deterioration.

Rapid response teams sound like a good idea, but that's all they are so far. US hospitals now risk diverting limited resources into an intervention that could prove little more than an expensive distraction. "Science, not frustration, should guide the development of national patient safety standards," the article concludes.

JAMA 2006;296:1645-7

"Lite" version of collaborative care fails primary care patients with depression

Collaborative care, usually with a nurse care manager, is an effective way to help the one in 10 primary care patients with depression. But it's expensive, and economic considerations have stalled the dissemination of collaborative care in the US. In an attempt to find a less intensive but equally effective strategy, researchers developed a "lite" version of decision support that reduced patient contact with a care manager to a single, 15 minute telephone call but offered primary care doctors quarterly feedback on their patients' progress. It didn't work. In a cluster randomised trial, patients treated by doctors using the programme got no better than patients treated with usual care. Both groups improved, but, at the end of 12 months, mean depression scores were still within the range associated with moderately severe depression (PHQ-9 scores of 10-15).

The results were disappointing, not least because the slimmed down model significantly improved the quality of treatment. Compared with control patients, patients in the programme saw more mental health specialists, took more antidepressants, and took them for longer (76% took an antidepressant for at least 90 days *v* 62% of controls, $P = 0.008$).

A linked editorial (pp 544-6) says that collaborative care management is still the way forward, but there is "no free lunch." Depressed people probably need at least 6-12 months of continuous follow-up by a care manager, coupled with triage and more intensive treatments for the sickest.

Ann Int Med 2006;145:477-87

Oral misoprostol reduces postpartum haemorrhage among women in rural India

Postpartum haemorrhage is the leading cause of maternal deaths in the developing world, where births happen at home and injectable uterotonic drugs such as oxytocin are often unavailable. Oral misoprostol is an affordable, widely available, and effective alternative, according to a placebo controlled clinical trial from rural India. Among low risk women attended at home or in a clinic by an auxiliary nurse midwife, misoprostol reduced the incidence of postpartum haemorrhage from 12.0% to 6.4% (relative risk 0.53 (95% CI 0.39 to 0.74)), reduced the incidence of severe bleeding from 1.2% to 0.2% (0.20 (0.04 to 0.91)), and reduced mean blood loss from 262.3 ml to 214.3 ml ($P < 0.0001$) compared with placebo. The 812 actively treated women took 600 µg of misoprostol within five minutes of delivery. The main side effects were shivering (52.2% *v* 17.3%) and fever (4.2% *v* 1.1%), which the authors consider an acceptable trade off in return for a safer delivery.

A linked commentary (pp 1216-8) is cautiously optimistic about the future role of misoprostol as a lifesaving intervention for the world's most vulnerable women. But the authors warn against widespread and unregulated distribution until birth attendants practising a long way from medical support know how to use the drug safely.

Lancet 2006;368:1248-53

Tadalafil and dexamethasone may help prevent high altitude pulmonary oedema

People who climb rapidly to high altitudes risk acute mountain sickness, and a small minority get potentially life threatening pulmonary oedema. There are few prophylactic treatments for either, so a team from Switzerland designed a clinical trial to test the vasodilator tadalafil, more commonly used for erectile dysfunction, and the corticosteroid dexamethasone in people with a predisposition to high altitude pulmonary oedema. The 29 participants were taken rapidly up an Italian mountain to an altitude of 4559 m, where they spent two nights. They began treatment with dexamethasone (8 mg twice daily), tadalafil (10 mg twice daily), or a placebo the day before their ascent.

Both drugs helped prevent pulmonary oedema, which developed in seven of the nine people taking placebo, one of the eight people taking tadalafil, and none of the 10 people taking dexamethasone ($P < 0.05$ for both treatments *v* placebo). However, only dexamethasone helped prevent the much commoner acute mountain sickness. Both drugs controlled pulmonary artery pressures, which rise in response to hypoxia, significantly better than placebo.

Tadalafil is a phosphodiesterase inhibitor that selectively dilates pulmonary

arteries, so an effect on high altitude pulmonary oedema is biologically plausible. Exactly how dexamethasone works is still unclear, but it's the only drug so far that seems to prevent both acute mountain sickness and pulmonary oedema. This small, highly selective trial was not designed to look for side effects.

Ann Int Med 2006;145:497-506

Ophthalmologists welcome one or possibly two new treatments for age related macular degeneration

After searching for more than two decades researchers have finally found an effective treatment for the severe form of age related macular degeneration. Ranibizumab is a monoclonal antibody directed against vascular endothelial growth factor, a protein that damages the retina by encouraging the growth of new blood vessels. In two large clinical trials, ranibizumab injected monthly into the vitreous humour halted the otherwise inevitable deterioration in eyesight associated with this disease and improved visual acuity by between one and two lines on a standard eye chart. Controls in both trials got worse: in the first trial they had placebo injections, and in the second they had photodynamic therapy with verteporfin. There were few serious complications in either trial.

Ranibizumab was licensed for use in the US in June, but it's very expensive at nearly \$2000 a dose. Some ophthalmologists opt instead for ranibizumab's sister drug, bevacizumab, a larger version of the same monoclonal antibody. Bevacizumab is an intravenous treatment for cancer, so putting it into the eye is strictly off label. However, uncontrolled trials have suggested that it works, at about one tenth the cost of ranibizumab treatment. Two linked commentaries agree that it's now time for a head to head trial comparing the two (pp 1409-12, 1493-5).

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