Short cuts

What's new in the other general journals

Pathogen migrates north into Alaskan oysters

Gastroenteritis caused by *Vibrio parahaemolyticus* is normally associated with oysters harvested in warm-water estuaries, not the arctic waters of Alaska. So American scientists were surprised to isolate the pathogen from sick passengers on board cruise ships in Prince William Sound. The scientists, who were investigating a large outbreak of diarrhoea, identified 22 affected passengers from three separate cruises during July 2004. The illness was clearly linked to oysters from a local farm (adjusted odds ratio 5.2; 95% CI 1.47 to 18.54), even though the sick passengers had eaten only one oyster each on average. A media appeal in Alaska identified 52 more people who had become ill soon after eating Alaskan oysters.

This outbreak occurred 1000 km further north than any previous outbreaks, and the researchers think ocean warming may be partly responsible. On the index farm, water temperatures in summer have risen by a steady 0.2°C a year since 1997. In 2004, water temperatures stayed above 15°C throughout July and August for the first time. Public health authorities will now have to rethink their surveillance strategy for *V parahaemolyticus*, not least because the contaminated oysters responsible for this outbreak contained 3000 times fewer bacteria than the safe threshold for shellfish set by the US Food and Drug Administration.

N Engl J Med 2005;353:1463-70

Excess deaths from heart attack remain unexplained

Americans admitted to hospital with a heart attack in December are more likely to die than those admitted at other times of the year. It's unclear why, but some

observers suspect the excess deaths have something to do with suboptimal treatment during the winter holiday season, when many hospitals are understaffed. To investigate this possibility, researchers analysed data from a national database of Medicare patients admitted for heart attack between 1994 and 1996.

Patients admitted in December were slightly more likely to die within 30 days than patients admitted in other months (21.7% v 20.1%; adjusted odds ratio 1.07, 95% CI 1.02 to 1.12), but not because of inadequate treatment. These patients, all of whom were over 65 with confirmed heart attack, were just as likely to get aspirin, β blockers, or reperfusion treatments as anyone else. Patients admitted in December were older than other patients and less likely to see a cardiologist (40.1% v 41.3%), but neither of these differences explained the extra deaths.

These data are now a little old, and times have changed. But their message is still reassuring, say the authors: patients don't seem to be dying unnecessarily during the winter holidays because staff are too busy having fun to save them.

Ann Intern Med 2005;143:481-5

Obesity epidemic in US looks worse than ever

Plenty of studies have already identified the epidemic of obesity that is overwhelming public health in the United States. To add a little more detail to the picture, researchers used data from a long standing cohort to

estimate what percentage of American adults will become overweight or obese over the next 30 years.

Members of the cohort, which consisted of 4117 middle aged white American men and women, were examined at least twice between 1971 and 2001. During the first four years of follow-up, 14-19% of the women and 26-30% of the men became overweight, and less than one in 10 overall became obese. The long term picture was considerably worse. During 30 years of follow-up, over half of the adults in this cohort became abnormally overweight (body mass index ≥ 25 kg/m²). About a third of the women and a quarter of the men became obese (body mass index ≥ 30 kg/m²). More than one in 10 of the whole cohort ended up with a body mass index > 35 kg/m².

If the past 30 years are anything to go by, the estimated lifetime (30 year) risk for being overweight or obese exceeds 80% for white American adults, say the authors.

Ann Intern Med 2005;143:473-80

Normal fasting serum glucose is linked to onset of diabetes in young men

In one cohort of 13 163 healthy young men, 208 developed type 2 diabetes during nearly six years of follow-up. All had "normal" fasting serum concentrations of glucose at the start of the study, currently defined as < 5.55 mmol/L. Although the overall incidence of diabetes was low, the authors found a clear trend linking higher baseline values for fasting glucose concentration with higher risk of diabetes. Men with fasting serum glucose in the top fifth of the whole cohort had more than three times the risk of developing diabetes than men in the bottom fifth (hazard ratio 3.05, 95% CI 1.78 to 5.18). Men in the third and fourth fifths also had a significantly higher risk of diabetes relative to the bottom fifth, a trend that held firm through adjustments for other risk factors such as age, family history of diabetes, body mass index, serum triglyceride concentrations, physical activity, and smoking.

These data, from a database kept by the Israeli armed forces, suggest that the risk of diabetes in young men starts to increase when fasting serum concentrations of glucose reach 4.83 mmol/L. Predictably, the trend in this study was most obvious among men who were overweight or obese.

N Engl J Med 2005;353:1454-62

Study confirms risk factors for multiple malignant melanomas

INCIDENCE OF SECOND PRIMARY MELANOMA

Just over one in 10 people with a first malignant melanoma will go on to get another within five years, and nearly three in 10 of those who have a second primary will go on to get a third, according to estimates from a recent American study. The risks of a subsequent tumour are highest among patients with a family history of melanoma, dysplastic naevi, or both (19%, 24%, 30%, respectively).

In this study, which examined data from a single tertiary referral centre in the United States, 59% of second tumours occurred less than a year after the first, and half were at the same body site. Subsequent melanomas tended to be thinner than the first one, probably because patients who have had one melanoma are extra vigilant about their moles. It's also possible that people with multiple melanomas have less aggressive disease; in general, their tumours were thinner at diagnosis than in people who had just one. Further, those with multiple tumours were less likely than people with just one melanoma to die from the disease (6%, 29/385, *v* 16%, 649/4099).

This isn't the first study to try to characterise multiple primary melanomas, but the authors say it's the best attempt at a prospective study so far. Patients attending the Sloan Kettering Cancer Center in New York are unlikely to be typical of patients treated in less specialised institutions, however.

JAMA 2005;294:1647-54

Implantable defibrillators are cost effective for some high risk patients

Eight randomised trials have evaluated implantable cardioverter defibrillators for patients with a high risk of life threatening

arrhythmias. As the patients given defibrillators lived longer than the controls in six of the trials, the defibrillators seem to work in these populations. But are they cost effective? Researchers estimate that for the kind of patients included in successful trials, each quality adjusted life year (QALY) gained cost between \$34 000 and \$70 200 (£19 200-£39 700; €27 900-€57 800). These estimates make the defibrillators just about cost effective, depending on how much society is prepared to pay for an extra year of life. In the United States, the threshold is currently set at around \$50 000 per QALY. Patients in the successful trials had heart failure and an ejection fraction less than 40%. Some, but not all, had had warning arrhythmias. The trials included patients with coronary artery disease and cardiomyopathy.

For patients with a recent heart attack or those waiting for coronary artery bypass surgery, implantable defibrillators look much less attractive—they cost more than control treatments, and in two trials, the defibrillators cost lives rather than saved them. The authors of this analysis conclude that implantable defibrillators can be cost effective, but only in carefully selected patients.

N Engl J Med 2005;353:1471-80

Pulmonary artery catheters are mostly harmless, but don't improve outcomes for patients

Doctors looking after critically ill patients have been reluctant to give up the comforting option of a pulmonary artery catheter, despite more than two decades of resolutely neutral research results. Two more papers published last week may finally persuade them. The authors of both conclude that pulmonary artery catheters do little serious harm, but they do no good either. The first study, a meta-analysis of 13 randomised controlled trials, tested pulmonary artery catheters in 5051 patients having high risk surgery, in

general intensive care, or being treated for severe heart failure, adult respiratory distress syndrome, or sepsis. Patients managed with and without a pulmonary artery catheter had statistically indistinguishable death rates and lengths of stay in hospital. The second paper, a randomised trial in 433 patients with severe heart failure, also reported no significant effects either way on mortality or hospital stay, although patients managed with a pulmonary artery catheter reported a subjective improvement in quality of life, mostly after leaving hospital. The catheters were associated with more adverse events (22%, 47/215 *v* 12%, 25/218) but were not related to any deaths.

So is this the end for the iconic apparatus of the intensive care unit? A linked editorial (p 1693-4) says the weight of evidence so far (and there's quite a lot of it) does not support using a pulmonary artery catheter to guide treatment in any patient group—with the possible exception of patients with acute respiratory distress syndrome. A definitive trial is in the pipeline for them.

JAMA 2005;294:1625-33

Pregnancy increases the risk of HIV among women in Uganda

A study from Rakai in Uganda has confirmed suspicions that African women are at higher risk of HIV infection during pregnancy than at any other time. In this study, seronegative women who were pregnant were twice as likely to seroconvert (2.3 per 100 person years) as women who were not pregnant (1.1) or women who were breast feeding (1.3). Their risk of infection remained high even when adjusted for their sexual behaviour and the sexual behaviour of their partners, which suggests that the biology of pregnancy could be to blame.

It's certainly possible that hormonal or immunological changes during pregnancy could make women more susceptible to HIV infection, but there's a long way to go before we know exactly how. In the meantime, we should carry on trying to change behaviour, says one observer (p 1141-2). Women should be warned about the increased risk of HIV during pregnancy and encouraged to take the right steps to avoid infecting themselves and their unborn children. Their husbands need education and encouragement too—36% of the men in this study said they had multiple sexual partners during their wife's pregnancy.

Lancet 2005;366:1182-8

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