Short cuts

What's new in the other general journals

Sulphonylurea can step in for insulin in diabetes with mutated KCNJ11

It seems that nine out of 10 people whose diabetes is caused by a mutation in the KCNJ11 gene could safely switch from injecting insulin to taking oral sulphonylurea. People with this rare mutation are born with impaired insulin secretion, and are usually diagnosed with diabetes before 6 months of age. They were, until recently, thought to need insulin treatment all their lives.

In a multicentre study that enrolled 49 consecutive patients with the mutation who were between 3 months and 36 years old, 44 patients were able to switch. Glycaemic control was not only good with sulphonylurea, but was improved compared with insulin. The effects lasted for up to two years, until the study ended. The only side effect of sulphonylurea was transitory diarrhoea without pyrexia. It was recorded in five patients, lasted up to four days, and didn't alter the course of treatment.

Mutations in the KCNJ11 gene impair ATP sensitive potassium channels in pancreatic β cells, so insulin is not secreted into the bloodstream. Sulphonylurea remedies this by mechanisms independent of ATP. In physiological studies on subgroups of patients, sulphonylurea restored insulin secretion in response to intravenous glucose, and even more so to oral glucose or a mixed meal. In vitro, sulphonylurea was able to close mutant potassium channels to the extent corresponding to the findings in vivo.

The authors argue for genetic testing of all patients who had diabetes diagnosed early in life, whatever their age now, since they have a good chance of switching from injecting insulin to oral treatment. The accompanying editorial (p 507) highlights

the need for routine screening of newborns for neonatal diabetes and discusses other implications of the findings.

N Engl J Med 2006;355:467-77

Effects of war on mental health of civilians

Exposure to conventional warfare has long-lasting and serious effects on civilians' mental health, but effects of exposure to chemical warfare seem to be much more severe.

Seventeen years after the 1980-8 Iran-Iraq war was over, researchers surveyed 153 people from three Iranian towns with different exposures to war. The town of Oshnaviyeh saw low intensity conventional warfare only, Rabat experienced high intensity conventional but not chemical warfare, and Sardasht was exposed to high intensity conventional warfare and chemical weapons.

Lifetime and current prevalences of post-traumatic stress disorder in these towns, respectively, were 8% and 2%; 31% and 8%; and 59% and 33% (P for trend < 0.001). People from Sardasht had a 27-fold higher risk of having post-traumatic stress disorder 17 years after the conflict than people living in Oshnaviyeh, whereas people from Rabat had a fourfold greater risk. Compared with people from Oshnaviyeh, residents of Sardasht had a sevenfold greater risk of having depression, and residents of Rabat had a 1.5-fold higher risk. Anxiety symptoms were 15 times more common in Sardasht than Oshnaviyeh, and twice as common in Rabat.

JAMA 2006;296:560-6

Measles outbreak in US exposes failure to implement recommendations

Being a highly infectious viral disease, measles is hard to contain, but high rates of routine childhood vaccination led to its elimination in the United States in 2000. The US Public Health Services Advisory Committee on Immunisation Practices recommends that all people travelling abroad, children of school age, and healthcare workers should be vaccinated against measles or have proof of immunity.

In May 2005, a 17 year old unvaccinated girl travelled to Romania, where an outbreak of measles was starting, and she became infected. Vaccination rates were low at the gathering she attended in Indiana, the day after her return to the

United States, and an unvaccinated hospital worker helped spread the infection. During the next two months, more than 30 people got the disease, including one life threatening case. About 70% of children with measles were schooled at home (home schooled children in Indiana and the rest of the United States are estimated to constitute 1% of children of school age).

The outbreak seems to have been contained by the high rates of vaccination coverage in the community surrounding the one where the outbreak occurred. Only two occurrences of vaccine failure were recorded. An editorial (p 440) says that the outbreaks or epidemics can cause most harm to infants who are too young to be vaccinated but are no longer protected by their mother's immunity. They are at high risk of acquiring infection and developing a severe form of disease. Although measles can cause severe sequelae and death, some parents still refuse to have their children vaccinated for fear of complications.

N Engl J Med 2006;355:447-55

How best to screen for intimate partner violence

Intimate partner violence is recognised as a major public health problem, but it is not clear how best to identify those affected. When more than 2500 women were asked to participate in a trial of screening methods in a healthcare setting—a family practice, an emergency department, or women's health clinic—only 5% refused. The randomised controlled trial assessed the effectiveness of two screening methods, the partner violence screen and the woman abuse screening tool. Each method was applied as a face to face interview, in a written form, and using a computer.

The one year prevalence of violence, extent of missing data, and preference of the women differed according to the screening tool, method of application, and the setting, but the researchers were unable to find the best combination. The recorded prevalence of violence ranged from 4% to 17%. Participants disliked the face to face interview the most, and found it hardest on privacy and ease of responding. However, it was the woman abuse screening tool given as a written questionnaire that found the lowest prevalence, and written questionnaires had more missing data than face to face interviews or screening using a computer.

The diagnostic accuracy of the two screening tools was compared with that of the composite abuse scale—the most comprehensive measure of exposure to intimate partner violence. With sensitivities of less than 50% of that of the scale, both the screening methods identified less than half of the women who showed signs of partner violence.

JAMA 2006;296:530-6

HAART is increasing in potency but AIDS mortality stagnates

A study shows that the virological response in the first year after starting highly active antiretroviral therapy (HAART) has improved over the years, but we haven't seen corresponding declines in rates of AIDS and mortality. A collaboration combined 12 cohort studies that together included more than 22 000 people infected with HIV-1 living in Europe and North America and followed them up for one year after starting HAART. Since 1995, when the treatment was first introduced, timeliness of starting HAART improved over the years, but showed a decline in recent years. Many opportunities for early diagnosis and treatment seem to be missed.

Recent years also show a worrying rising trend in the development of AIDS during the first year of HAART. The authors suggest that the discrepancy between virological response and clinical outcomes might be caused by changes in demographical

characteristics of people infected with HIV. Compared with 10 years ago, heterosexual transmission is more common, more women are infected, and more people come from areas where tuberculosis is a threat.

Lancet 2006;368:451-8

Injuries in Europe reflect inequalities that could be reduced

The 52 culturally and economically diverse countries in the WHO European Region include some of the safest countries in the world—the Netherlands, Sweden, and the United Kingdom—and some of the least safe. Rates of intentional and unintentional injuries and mortality are especially high and on the rise in the Commonwealth of Independent States (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan).

On average, people in low and middle income European countries are over three times more likely to die from injuries than people from high income European countries. Large variations within countries also exist: children from lower classes in the United Kingdom are five times more likely to die from injuries than children from higher classes. The widening of this gap in recent years comes from the lower classes not benefiting from improvements in injury mortality seen by the richer classes.

Acting on these inequalities is an issue of social justice, argue the authors. The key to change is legislation and its enforcement to ensure safer environments (including improving the design of housing and roads, and use of safety equipment), and to reduce risky behaviour such as drink-driving. Alcohol consumption is estimated to play a role in about a half of injuries in Europe. Media and educational campaigns seem to help legislation measures, but alone they have little effect.

Lancet 2006

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Education of doctors and patients improves control of blood pressure

A simple health system intervention can improve control of blood pressure in people with hypertension. More than 180 doctors who cared for over 1300 US war veterans were randomised to receive (a) the web link to the seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; (b) the web link and a computer alert notifying them of each patient's blood pressure; or (c) the web link, computer alert, and a letter sent to their patients advising them of ways to control their blood pressure.

People whose doctors received the maximum intervention were more likely to have systolic blood pressure of

<140 mm Hg at the six month follow-up than people whose doctors received the web link only ($P=0.01$ after adjustment for clustering). Their systolic blood pressure was on average 6 mm Hg lower. The authors say that the maximum intervention could reduce cerebrovascular morbidity and mortality by 42%, coronary heart disease by 14%, and heart failure by 50%.

Ann Intern Med 2006;145:165-75

Endogenous oestrogen may be cardioprotective in white elderly men

Although oestrogen taken orally has been shown in randomised trials to increase men's risk for cardiovascular diseases, endogenous oestrogen seems to be protective. A prospective community based cohort study, part of the Framingham heart study, included over 2000 middle aged white men without history of cardiovascular disease. During the 10 year follow-up, about one in five of the men experienced a first event—coronary, cerebrovascular, or peripheral vascular disease or heart failure.

Higher levels of oestrogen at baseline were associated with a slightly lowered risk of cardiovascular events, but the effect was modified by age. In older men, with median age of >56 years, endogenous oestrogen was cardioprotective, with the hazard ratio per standard deviation increment in log oestradiol of 0.86 (95% CI 0.78 to 0.96, $P=0.005$). In younger men (median age ≤56 years), endogenous sex hormones did not affect the incidence of cardiovascular disease (hazard ratio per standard deviation increment 1.11, 0.89 to 1.39, $P=0.36$).

It remains to be seen whether men who have low levels of endogenous oestrogen could benefit from oestrogen treatment. The main limitations of the study were that researchers measured sex hormones at baseline only, did not measure free unbound hormone levels, and studied white men only. The findings may not apply to women and non-white people.

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