Short cuts

What's new in the other general journals

Coffee may reduce the risk of type 2 diabetes

After observational studies hinted that drinking coffee reduced the risk of type 2 diabetes, researchers investigated this attractive possibility by systematically reviewing the best available data. They found a strong and consistent link between habitual coffee drinking and a lower incidence of type 2 diabetes. In nine cohort studies combined ($n = 193\,473$) people in the highest or second highest categories for coffee drinking (≥ 6 cups/day and 4-6 cups/day) were about a third less likely to develop diabetes than people in the lowest category (≤ 2 cups/day) (relative risks 0.65, 95% confidence interval 0.54 to 0.78, and 0.72, 0.62 to 0.83). The association stood firm after adjustment for confounding factors, including smoking and obesity. It was also consistent across five cross sectional studies from Japan, Spain, Sweden, and the Netherlands.

These findings look convincing, but it's much too early to start telling patients to drink more coffee, say the authors. Because of the nature of the studies, there's still a chance the association isn't real (caused instead by bias or confounding) or causal (early diabetes might alter coffee drinking habits). Even if it is both, we need to find out more about how and why coffee alters glucose metabolism before concluding that it's good prophylaxis against diabetes.

JAMA 2005;294:97-104

Ceftriaxone is a good alternative to chloramphenicol during epidemics of meningococcal meningitis

One or two intramuscular injections of long acting chloramphenicol is the cornerstone of treatment for epidemic meningococcal meningitis in sub-Saharan Africa. It's cheap, effective, and easy to use, but production, and therefore supply, is under threat. Ceftriaxone is another widely available antibiotic with activity against *Neisseria meningitidis*, and it has been found to work just as well in a recent head to head trial from Niger.

The trial, which was randomised but not blinded because of technical difficulties in the field, compared single injections of ceftriaxone or chloramphenicol in 510 patients aged more than 2 months (median age 7 years) with suspected meningococcal meningitis who presented to a healthcare facility during the 2003 epidemic.

Rates of death or recovery were the same three days after either treatment: overall, 44/503 (9%) of patients in the intention to treat analysis were classed as treatment failures. Twenty six (5%) of these patients died, of whom 12 had received chloramphenicol and 14 had had ceftriaxone.

Outcomes were similar in an analysis confined to the 308 patients with confirmed meningococcal meningitis.

The trial, sponsored by the charity Médecins Sans Frontières, was designed to show that ceftriaxone and chloramphenicol are equally effective treatments in an epidemic, and the authors are now happy that they are. If supplies of chloramphenicol fail, ceftriaxone can be used instead, they say, as soon as health organisations on the ground have thought through where to get it, how to distribute it in an epidemic, and how to minimise the risk of bacterial resistance associated with this class of antibiotic.

Lancet 2005 July 5; doi 10.1016/S0140-6736(05)66792-X

Serum concentration of testosterone is a poor marker for sexual satisfaction in women

Women who don't or can't enjoy sex are increasingly prescribed testosterone because of a widespread belief that androgen insufficiency is the cause of their

problems and can be diagnosed by measuring serum concentration of testosterone. But a large study of Australian women recently found no association between an unsatisfying sex life and serum concentrations of androgens including testosterone.

The 1021 women, who were recruited randomly from the electoral register and aged 18-75 years, gave a fasting blood sample and filled in a validated questionnaire about seven aspects of their sex lives—desire, arousal, orgasm, pleasure, sexual concerns, responsiveness, and self image. Researchers then looked for a link between low scores in each of these aspects, usually zero out of a possible 100, and blood test results.

There were no statistical associations between low scores and serum concentrations of free or total testosterone in either younger or older women. So measuring concentrations is probably a waste of time, say the authors.

It's still possible that some women's sexual problems are caused by faulty androgen metabolism, but this study shows that a simplistic approach to diagnosis doesn't work. Measuring serum concentrations of androgens does not help predict sexual satisfaction in a general population of women.

JAMA 2005;294:91-6

Acupuncture is no better than sham procedure for fibromyalgia

Between 2% and 4% of US adults have fibromyalgia, and up to a fifth of them have tried acupuncture for pain relief. So far, trial results have been mixed, partly because it is so difficult to overcome methodological problems such as blinding and the selection of meaningful control treatments in trials of acupuncture.

In the latest attempt, researchers used three control treatments—acupuncture designed for irregular menses rather than fibromyalgia, acupuncture needling at non-acupuncture points, and simulated acupuncture using toothpicks. For the 100 patients in this trial, mostly middle aged women, real acupuncture worked no better than the control treatments combined (mean between-group difference 0.5 cm,

95% confidence interval -0.3 cm to 1.2 cm, on a 10 cm visual analogue scale measuring pain). The researchers looked for differences in pain relief, sleep quality, fatigue, and overall wellbeing, and found none during the 12 week treatment or in the following six months.

They tried particularly hard to blind patients (not practitioners) to their treatment; none of the patients had had acupuncture before and so did not know what to expect, patients wore a blindfold during treatment and were stopped from talking too much to other patients in the trial or to their acupuncturist. These efforts paid off. The proportion of patients who believed they had had real acupuncture was about the same in both treatment and control groups.

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Side effects from non-drug treatments for arthritis go unreported

French researchers have called for better reporting of the side effects caused by non-drug treatments after their study found harms mentioned in fewer than half of 74 trials evaluating non-drug treatments for arthritis.

They looked carefully at 193 randomised trials of drug and non-drug treatments for rheumatoid and osteoarthritis, all published in journals with a high impact factor and supposedly better standards of reporting. Only 35/74 (47%) of the non-drug trials mentioned harms, compared with 103/119 (87%) of the drug trials. Trials of non-drug treatments such as surgery, joint lavage, exercise, and psychotherapy were worse than drug trials at reporting all aspects of harm to patients,

including the nature, frequency, and severity of side effects. Fewer than a third reported side effects by treatment group, a feature of four fifths of the drug trials (32% v 82%). Unsurprisingly, non-drug trials devoted a substantially smaller proportion of their results section to harms than did drug trials (7% v 32%, $P < 0.001$).

Well under half the trials in this study reported their source of funding. Among those that did, non-drug trials were more likely to be publicly funded than drug trials. Non-drug trials also had significantly weaker methods. Patchy or absent data on the risks of harm from non-drug treatments is a serious problem for patients with arthritis and the doctors trying to treat them according to best evidence, the authors conclude.

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Children grow better after renal transplants from living relatives

Children with chronic renal failure grow more slowly than healthy children. They catch up a little once they have a well functioning allograft, and a little more if the transplanted kidney came from a living related donor, according to a study from Germany. A retrospective look at the growth of 51 boys (mean age 8 years) over five years found that the 21 who received grafts from living related donors were taller at all ages than the 30 who received grafts from cadavers. The boys with grafts from living related donors grew significantly faster than other boys during infancy ($P < 0.04$) and puberty ($P < 0.04$), reaching a mean final height of 168 cm. Boys who received grafts from cadavers reached a mean final height of 161 cm.

Further analysis showed that the improved growth in boys with living related donors was independent of glomerular filtration rate, which was better for recipients of living related transplants only in the first year after the operation. Improved growth was also independent of original height, time spent receiving dialysis, original age, and number of rejection episodes over the five years of the study. All the boys took prednisolone and either ciclosporin or azathioprine. More importantly, none was treated at any time with growth hormone.

Does this mean living related donors should be the preferred option for all children waiting for renal transplants? Not yet, says one commentator. This is a small retrospective study of boys who had operations between 1974 and 1994, and the findings need to be confirmed in bigger datasets.

Lancet 2005;366:151-3

Soya protein lowers blood pressure in healthy Chinese adults

Chinese men and women who ate an extra 40 g of soya bean protein a day as part of a randomised trial had lower blood pressure at the end of 12 weeks than controls who ate extra complex carbohydrates instead. The 302 participants were all healthy, aged 35-64, and with normal or slightly high blood pressure at baseline (systolic blood pressure of 130-159 mm Hg or diastolic blood pressure 80-99 mm Hg). The supplements were put in identical biscuits which participants ate instead of breakfast or lunch. The trial was carefully double blinded.

Compared with the control biscuit, the soya protein biscuit reduced systolic blood pressure by 4.31 mm Hg (95% confidence interval 2.11 to 6.51, $P < 0.001$) and diastolic blood pressure by 2.76 mm Hg (1.35 to 4.16, $P < 0.001$), a clinically important effect that was biggest in the subgroup of participants who had been hypertensive at the start of the trial (systolic blood pressure 140 mm Hg, diastolic blood pressure > 90 mm Hg, or both).

This is not the first study to suggest that soya protein can lower blood pressure, and an effect is certainly biologically plausible. For example, soya protein contains a lot of arginine, a precursor to the potent vasodilator nitric oxide. But the evidence is not yet conclusive, says an accompanying editorial (pp 74-6), and there's the added complication that soya bean consumption has been linked to bladder cancer in Chinese men. There is still some way to go before soya protein can be described as a safe and effective treatment for moderately raised blood pressure.

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