



An aspirin a day keeps breast cancer away?

A population-based case control study of women with breast cancer (1442 cases and 1420 controls) has shown that taking aspirin seven or more times a week reduces the risk of breast cancer by 28%. The drug reduced the risk of hormone receptor positive tumours but not hormone receptor negative tumours.

It is hypothesized that this effect is achieved by the inhibition of cyclooxygenase2 (COX-2) as the latter has increased gene expression in hormone receptor-positive breast cancers. Ibuprofen consumption produced a weaker effect and paracetamol had no effect.

JAMA 2004;291:2433–40

Accuracy in blood pressure measurement

Although blood pressure is the commonest clinical measurement used in hospitals, consulting rooms and, more recently, homes and workplaces, numerous technical errors are known to influence its accuracy. Most blood pressure audits have focused on device functionality, cuff size and systolic and diastolic blood pressure detection.

In an interesting recent paper two Australian physicians remind us that it has been recognized for almost 100 years that blood pressure increases with arm dependency. Recent research has demonstrated that this artefact is exaggerated the higher the blood pressure. For example, a blood pressure of 155/85 mmHg would increase by 25/11 mmHg to 180/96 mmHg by lowering the arm from the horizontal position to a dependent position, whereas a much smaller absolute increase would occur if the blood pressure was 120/80 mmHg.

They audited the arm position preference of the 182 clinicians in their hospital and found a marked variation. They (and I) recommend that the arm should be horizontal.

Intern Med J 2004;34:290–1

Trouble at t'Mill (Hill)?

Scientists at the National Institute for Medical Research (NIMR) at Mill Hill in north London are worried that their institute could soon be split up. The Medical Research Council (MRC) has confirmed that it is revisiting a previous decision to keep the NIMR—one of Britain's premier centres for basic medical research—on one site.

A task force has since consulted London hospitals and colleges that could potentially offer sites to the new NIMR. "We asked what they could do and they have offered a variety of proposals," says Colin Blakemore, chief executive of the MRC and chairman of the task force reviewing the institute's fate. "We would like to keep the NIMR as one institute. But there are practical constraints," he says. "We have to look at more modest possibilities."

Nature 13 May 2001

Publication bias

Methuselah suspects that there are a lot of negative clinical trials that never see the light of day, leading to a bias in favour of published results. Hence I was somewhat surprised to find there are now at least three journals dedicated to the promotion of scientific negatives: The *Journal of Negative Results in Biomedicine* (www.jnrbm.com/home), the *Journal of Negative Observations in Genetic Oncology* (www.path.jhu.edu/NOGO), and the *Journal of Negative Results – Ecology & Evolutionary Biology* (www.jnr-eeb.org).

Unfortunately these journals appear to be rather specialised and of little interest to the average clinician.

New Scientist 12 June 2004, p30

The exception—a negative clinical trial in a prestigious journal

Degeneration of cholinergic basal forebrain neurons innervating the cortex is believed to contribute substantially to cognitive deficits seen in Alzheimer's disease. This discovery triggered development of cholinesterase inhibitors, which aim to raise acetylcholine levels in the brain by blocking the enzymes that metabolise this molecule. Donepezil was the first such drug to be licensed in the UK, in March 1997, followed by rivastigmine and galantamine.

Researchers in Birmingham conducted a randomised trial comparing donepezil and placebo to determine whether donepezil produces worthwhile improvements in disability, dependency, behavioural and psychological symptoms, carers' psychological wellbeing, or delay in institutionalisation.

No significant benefits were seen with donepezil compared with placebo in institutionalisation (42% vs 44% at 3 years; $p=0.4$) or progression of disability (58% vs 59% at 3 years; $p=0.4$).

Similarly, no significant differences were seen between donepezil and placebo in behavioural and psychological symptoms, carer psychopathology, formal care costs, unpaid caregiver time, adverse events or deaths, or between 5 mg and 10 mg donepezil.

Their conclusion was that donepezil is not cost effective, with benefits below minimally relevant thresholds. More effective treatments than cholinesterase inhibitors are needed for Alzheimer's disease.

Lancet 2004;363:2105–15