In brief

Reuters

Milk containers hang from the windows of a passenger train in Ghaziabad on the outskirts of New Delhi, India, last month. According to a survey by India's food safety authority earlier this year, most of the country's milk is diluted, or tainted with products such as bleach and detergent. The survey reportedly found that 70% of samples in urban areas and 30% in rural areas were contaminated.

From the CSIRO Preventative Health National Research Flagship

The AIBL study: throwing light on amyloid-β and Alzheimer's disease

Increasing health costs and lost productivity due to Alzheimer's disease, exacerbated by an ageing population, are a major national and global problem. However, there are signs of light at the end of the tunnel. The Australian Imaging, Biomarkers and Lifestyle Flagship Study of Ageing (AIBL study) is providing new hope for understanding and treatment of Alzheimer's disease.

A key clue to solving the puzzle of Alzheimer's disease was the characterisation of amyloid-β plaques deposited in the brains of patients with Alzheimer's, discovered in the 1980s by one of the present lead AIBL scientists, Colin Masters, and his collaborator Konrad Beyreuther. The hypothesis postulating amyloid-β as the causative agent has placed this peptide as the central target for understanding Alzheimer's disease.

Building on this discovery, the AIBL collaboration between researchers from CSIRO (Commonwealth Scientific and Industrial Research Organisation), the Mental Health Research Institute, University of Melbourne, National Ageing Research Institute, Austin Health and Edith Cowan University (http://www.aibl.csiro.au) has demonstrated the critical significance of amyloid-β in disease development. Christopher Rowe and his team's pivotal and groundbreaking studies using positron emission tomography have shown that amyloid-β plaque is deposited in the brain well before volumetric brain changes can be detected by magnetic resonance imaging and up to 15 years before clinical symptom onset, when damage may be largely irreversible. AIBL research provides hope for blood-based screening tools to facilitate early presymptomatic detection and therapeutic intervention.

There is now renewed interest from the pharmaceutical industry in developing treatments, including antibody therapeutics, for the presymptomatic phase of Alzheimer's disease. CSIRO scientist Jose Varghese and his team, in collaboration with Masters, recently characterised the structure of the amyloid-β peptide at the Australian Synchrotron. It is hoped this will provide clues to inform drug development. In addition, the newly formed Cooperative Research Centre for Mental Health will work with AIBL and CSIRO scientists to help develop diagnostic and therapeutic approaches to delay and treat this insidious disease. The global Research and Standardisation in Alzheimer's Disease Conference was hosted by the AIBL group in March to set standards for development of imaging and biomarker strategies, which should speed up research approaches to diagnostic methods.

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Australian Imaging, Biomarkers and Lifestyle Flagship Study of Ageing

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News

First: do no harm

Hospital-based care is clearly intended to improve patient health, but sometimes the care itself can cause harm. New research examined more than 15 000 patient records in eight developing countries in the Middle East and Africa.[1] The international researchers, led by Australian Dr Ross Wilson (who is now based in New York), found that 8.2% of these admissions showed at least one adverse event. Of these events, 83% were judged to be preventable and about 30% were associated with the death of the patient. The researchers acknowledged the limitations of their convenience sampling method and retrospective analysis; however, they said their results showed that the scale of preventable disability and death was a "serious public health problem with major implications for health policy, planning and resource allocation".

However, preventable hospital errors are not only the domain of the developing world. The new research cited landmark Australian research, also led by Dr Wilson, which found that of 14 000 hospital admissions, 16.6% were associated with an adverse event. This Quality in Australian Health Care Study, published in the *MJA* in 1995, concluded that 51% of the adverse events were preventable.[2]

1. BMJ 2012; 344: e832.
2. Med J Aust 1995; 163: 458-471.

From the MJA archives

MJA 1952; April 12 (edited extract)

Correspondence: nasal sinusitis

The first line of approach in the treatment of allergic sinusitis is to withdraw or deal with the offending allergies.

Some doctors give the impression that the mere boring of a hole into the antrum cavity is sufficient to effect a cure of an allergic sinusitis.

Not a week passes without my seeing a patient who has had irreparable damage done to his sinuses by surgery. It is a sorry sight, and medical men can be numbered appreciably among the victims. Some years ago, while a general practitioner, I had a visit from a doctor convicted of a drug offence, who pleaded with me to give him six grains of morphine. I asked him what precipitated his morphinism, and he replied that he suffered such intense facial pain following surgery to his sinuses that the only relief he could obtain was from morphine injections. Another in the vanguard of his specialty confessed that had it not been for his children and his religion he would have taken his

life years ago because of pain following a sinus operation. I lost a friend, a promising graduate of two years' standing, who journeyed to Vienna and died as the result of sinus surgery.

Short-wave therapy using the rotating electrode which I employ is the only instrument or measure I know that will relieve the intolerable pain associated with sinus disease. It promotes secretions and shrinks mucosal hyperplasia providing due attention is paid to aetiological conditions. I do not think it causes any damage if used correctly.

Yours, etc,
Wilkie Smith, March 4, 1952

Preventing heart disease

Inflammation has been associated with cardiovascular disease in observational studies, but causality has not been established. Much interest has focused on C-reactive protein as an inflammation biomarker, but the jury is out as to whether it contributes to atherogenesis. Now, two large studies have focused on the inflammatory cytokine interleukin-6 and its cellular receptor IL6R. The research, conducted by two consortia studying variants in interleukin-6 and IL6R genes, found that the cytokine may have a causal role in coronary heart disease. The researchers said that IL6R blockage could provide a "novel therapeutic approach to prevention of coronary heart disease that warrants testing in suitably powered randomised trials".

Lancet 2012; 14 March (online).

A new, non-invasive Down syndrome test

Prenatal diagnosis of Down syndrome currently relies on invasive tests such as amniocentesis or chorionic villus sampling, which have a miscarriage risk of about 1% and are conducted in about 3%–5% of pregnancies. However, a new blood test may change all that. The test, presented at last month's Royal College of Pathologists of Australasia Pathology Update conference, analyses DNA fragments in the mother's blood. If chromosome 21 DNA molecules are elevated, this suggests the woman is carrying a fetus with Down syndrome. A study of the test in 753 high-risk pregnant women, 86 of whom had a Down syndrome fetus, found that it had 100% sensitivity and 97.9% specificity. The test, which is called "safeT21" and costs about $1000, is already used in Hong Kong, mainland China and the United States, with worldwide distribution planned for this year.

BMJ 2011; 342: c7401

Confusing item numbers explained

If you think the Medicare Benefits Schedule makes James Joyce's *Ulysses* seem readable, you may be pleased to learn about a new MBS enquiry email service. AMA president Dr Steve Hambleton congratulated the Department of Human Services for initiating the service, which he said the AMA had been pursuing for some time. "The MBS is very complex and there are many grey areas", he said. Doctors or practice managers can email MBS item questions to askMBS@humanservices.gov.au, to be answered by a specialist MBS team.

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