Progesterone reduces the risk of preterm birth among women with a short cervix

Progesterone administration reduces the risk of recurrent premature delivery in women who previously delivered babies prematurely. Asymptomatic women with a short cervix are at increased risk for spontaneous early preterm delivery and a study was done to find out whether progesterone reduces this risk.

Transvaginal ultrasound performed during routine prenatal care in 24 620 women identified 413 women with short cervical length and 250 (60.5%) were randomly assigned to receive vaginal progesterone (200 mg each night) or placebo from 24 to 34 weeks of gestation. The primary outcome measure was spontaneous delivery before 34 weeks.

Spontaneous delivery before 34 weeks of gestation was less frequent in the progesterone group than in the placebo group (19.2% vs. 34.4%). Progesterone was associated with a non-significant reduction in neonatal morbidity (8.1% vs. 13.8%). There were no serious adverse events associated with the use of progesterone.

The study concluded that in women with a short cervix, treatment with progesterone reduces the rate of spontaneous early preterm delivery. *New England Journal of Medicine* 2007; **357**: 462-9.

Prevalence of rheumatic heart disease detected by echocardiographic screening

A study to find out whether echocardiographic screening of children would show a significantly higher prevalence of rheumatic heart disease compared to clinical screening alone was done in randomly selected schoolchildren from 6 to 17 years in Cambodia and Mozambique according to standard clinical and echocardiographic criteria.

Clinical examination detected rheumatic heart disease that was confirmed by echocardiography in 8 of 3677 children in Cambodia and 5 of 2170 children in Mozambique giving prevalence rates of 2.2 and 2.3 cases /1000 for the two countries. In contrast, echocardiographic screening detected 79 and 66 cases of rheumatic heart disease in the two countries, corresponding to prevalence rates of 21.5 and 30.4 cases/1000. The mitral valve was involved in the great majority of cases (87.3% and 98.4% respectively).

The study concluded that systematic screening with echocardiography identifies a much higher prevalence of rheumatic heart disease (about 10 times as great) than clinical screening. *New England Journal of Medicine* 2007; **357**: 470-6. Since rheumatic heart disease is known to have devastating clinical consequences and secondary prevention may be effective after accurate identification of early cases, screening of children at risk with echocardiography needs consideration.

Disease modifying therapies for Alzheimer disease

Currently there are no effective disease modifying medicinal drugs for Alzheimer disease (AD). Acetylcholinesterase inhibitors and memantine are licensed for AD, and have moderate symptomatic benefits. Although epidemiological studies suggest that NSAIDs, oestrogen, HMG-CoA reductase inhibitors (statins) or tocopherol (vitamin E) can prevent AD, prospective randomised studies have not convincingly shown clinical efficacy.

Major progress in molecular medicine suggests further drug targets. The metabolism of the amyloid precursor protein and the aggregation of its Aβ fragment are the focus of current studies. Aβ peptides are produced by enzymes β and γ secretase. Inhibition of β and γ secretase and other targets aiming to reduce Aβ fragments, including vaccination against Aβ in humans, are being evaluated in current studies. *Drugs* 2006; **66**: 2075-93.

Recent chikungunya outbreaks: a mutant virus in a new vector

In 2006, an outbreak of chikungunya fever, caused by a mosquito-borne alphavirus swept over a number of islands in the Indian Ocean (the Comoros, Mauritius, the Seychelles, Madagascar, Mayotte, and Reunion). In Reunion, which has a population of 770 000, there were 265 000 clinical cases (an incidence of 34%). The disease was implicated in 237 deaths (about 1 per 1000 clinical cases, and seroprevalence was 35%, with very few asymptomatic cases). In India, there have been an estimated 1.3 million cases to date. The global toll of chikungunya in 2006 could be close to 2 million, and the disease may well continue to spread this year.

Sequence analysis of the virus genome revealed that this massive outbreak was caused by a new variant and some researchers have proposed that this mutation may have modified the virus's ability to infect mosquitoes or perhaps even

the severity of the illness associated with human infection. The mutation was reported to have occurred sometime in 2005.

Previously undescribed severe clinical forms were reported, including cases caused by peripartum mother-to-infant transmission and cases involving meningoencephalitis and hepatic failure. Viral loads were high, frequently above 109 virus particles per millilitre of serum.

Aedes aegypti is the previously reported vector of the virus in Africa and Asia. In contrast, in Reunion and Mauritius, *A. albopictus*, the Asian tiger mosquito, was the primary vector. The devastating outbreak resulted from a human-mosquito-human cycle that, as in dengue, did not require an external non-human reservoir. It is also possible that the strain of chikungunya virus in the Indian Ocean became better adapted to the *A. albopictus* vector.

Thus the chikungunya outbreak involved an African virus, an Asian mosquito and started in the Indian Ocean. The recognition of new vectors makes possible the introduction of new pathogens. If humans are the host reservoir and the vector is widely distributed, globalisation of the disease may be just a matter of time.

The key measures for preventing chikungunya epidemics include entomologic surveillance, peri-domestic mosquito control, public education, detection of imported cases, and the early recognition of local transmission followed by efficient vector control. *New England Journal of Medicine* 2007; **356**: 769-77.

Sri Lanka needs to be vigilant about epidemics occurring in the region and to take measures to prevent or reduce outbreaks such as the epidemic that we experienced in December 2006.

Efficacy of lipid lowering therapy for diabetic patients compared to non- diabetics

A systematic review and meta-analysis involving 12 studies looked at the efficacy of lipid lowering therapy in diabetic patients compared to non-diabetics. In both primary and secondary prevention the risk reductions for major coronary events was 21% in diabetics compared to 23% in non-diabetics. When the results were adjusted for baseline risk, the diabetic patients benefited more in both primary and secondary prevention. Blood lipids were reduced to a similar degree in both groups.

The authors conclude that the evidence that lipid lowering treatment, especially with statins, significantly reduces cardiovascular risk in diabetic patients and non-diabetics is strong and suggest that diabetic patients benefit more in both primary and secondary prevention. *British Medical Journal 2006*; **332**; 1115-8.

The benefit of lipid lowering therapy, particularly with statins, should be offered to most patients with diabetes to reduce cardiovascular risk.

Interventions to promote walking: what works ?

A systematic review of 19 randomised controlled clinical trials and 29 non-randomised studies showed the characteristics of interventions that are likely to be effective. These include tailoring interventions to people's needs, targeting the most sedentary, or those most motivated to change and delivering interventions to the individual (brief advice) or household (individualised marketing) or through groups, who can encourage people to walk more. But the sustainability, generalisability and clinical benefits of many of these approaches are uncertain.

The most successful interventions could increase walking among targeted participants by up to 30-60 minutes/week on average in the short term. *British Medical Journal 2007*; **332**; 1204-7.

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