

## NEWS IN BRIEF



### OLDER EGGS AND FERTILITY RISK FOR DAUGHTERS

A research group in Atlanta presented results at the American Society for Reproductive Medicine meeting in New Orleans. They studied women at a fertility clinic – those still unable to become pregnant after treatment had older mothers than those who were successful. The mothers of women with IVF success had an average age of 25, compared to 28 for mothers of unsuccessful candidates.

Furthermore, in mothers whose daughters were successfully treated, the time span between birth of the daughter and menopause is 25 years. This was 20 years in the case of unsuccessfully treated daughters. The researchers interpreted this as a difference in the physiological age of the ovary.

It has been known for many years that older mothers risk Down's syndrome. However, this new research suggests that more subtle risks may be at play. Commentators have noted that many confounding factors could be at play, so further research will be needed.

(Source: BBC News Online, 25 October 2006)

### DHEA DECONSTRUCTED

Dehydroxyepiandrosterone (DHEA) and testosterone have been promoted in some countries as anti-ageing supplements. Jensen and colleagues performed a placebo-controlled, randomised, double-blind study. Women were given DHEA, while men were given DHEA or testosterone. The study showed that neither agent had physiologically relevant beneficial effects on body composition, physical performance, insulin sensitivity or quality of life.

(Source: NEJM (2006) 355:1647-1659)

### CHLOROQUINE COMEBACK

Chloroquine is a drug used in malaria. Unfortunately it has been rendered useless in most of the world, due to drug-resistant parasites. However, it has once again become effective in Malawi, according to a report in the 9 November 2006 issue of the *New England Journal of Medicine* – researchers there found that chloroquine cured all but one of 80 malaria cases

in Blantyre, the commercial capital of Malawi.

Chloroquine was a popular choice when first introduced decades ago, as it is cheap, easy to administer, and has few side effects. However, resistance emerged in South America and Southeast Asia in the 1950s, subsequently spreading to Africa by the late 1970s. In 1993, in response to high treatment failure rates with chloroquine, Malawi became the first African country to officially discourage its use, replacing it with sulfadoxine and pyrimethamine.

Although few expected natural susceptibility to return, genetic studies of malaria in 2001 suggested that the resistance mutation had nearly disappeared from Malawi. This new research confirms that suggestion.

While resistance may reappear if chloroquine were widely used again in Malawi, the knowledge that a drug can regain usefulness after a prolonged absence is useful in itself. It has implications for other drug regimes that have encountered widespread drug resistance.

(Source: *Science* (2006) 314:904 and *NEJM* (2006) 355:1959)

### DELVING INTO D-DIMERS

Tripodi and colleagues performed follow-up D-dimer testing in patients who had a first unprovoked proximal deep vein thrombosis (DVT) or pulmonary embolism (PE). These patients had received warfarin (or another vitamin K antagonist) for at least three months, followed by an interval of one month without anticoagulation before testing. They found that abnormal D-dimer levels one month after discontinuation of anticoagulation were associated with a significant incidence of recurrent venous thromboembolism. This risk could be reduced by the resumption of anticoagulation. The study has implications for the follow-up of DVT and PE patients.

(Source: *NEJM* (2006) 355:1780-1789)

### THE TRUTH ABOUT SALT

Experts behind the Dietary Guidelines for Americans have reduced the recommendations for sodium intake from 2,400 mg per day to an upper limit of 2,300 mg for adults. Yet, this

figure is nearly *half* of what the average American consumes daily, according to the Centres for Disease Control and Prevention's National Health and Nutrition Examination Survey.

Many fail to realise that table salt makes up only a small proportion of our sodium intake. The majority – 75% – comes from processed foods: cured meats like bacon, ham and sausage, frozen and canned vegetables, sauces and salad dressings, even cottage cheese.

One proven eating plan, known as the DASH (Dietary Approach to Solving Hypertension) diet, leverages the blood pressure-reducing power of whole foods, emphasising fruits, vegetables, whole grains and low-fat dairy products while limiting saturated fat, cholesterol and sodium. When tested in 459 people who followed the DASH plan for eight weeks, subjects dropped their systolic and diastolic pressures by an average of 5.5 and three points respectively. The effect was even more dramatic in those already diagnosed with hypertension, that is, 11.4 and 5.5 points respectively.

Another hot point of discussion involves “salt-sensitive” people, who were found to respond better and faster to a reduction in sodium intake. Researchers estimate that 10% to 25% of the population may be salt-sensitive, but among hypertensives, the number rises to 60%.

Dr Anna di Rienzo, a professor of human genetics at the University of Chicago, detected a possible genetic component to salt sensitivity, specifically a variation in the salt-regulating gene CYP3A5, most common in natives of sub-Saharan Africa. As the distance from the equator increases, so do subjects' likelihood of such a genetic mutation.

However, experts warned against loading up on sodium in those who are not salt-sensitive. Other factors, such as age, also play a role. For people over 50, the 2005 Dietary Guidelines recommend an upper limit of 1,500 mg of sodium per day. For those over 70, this drops to 1,200mg.

In addition to cutting down the intake of sodium-rich foods, walking has also been found to be beneficial in lowering blood pressure. The American Heart Association has already moved exercise to the top of its list of lifestyle modifications. Sodium reduction ranks second.

(Source: CNN Health)

#### **114 SCIENCE NOBEL LAUREATES LAUNCH PETITION TO SAVE HEALTHCARE WORKERS**

An open letter signed by 114 Nobel Laureates

in the sciences has been sent to Colonel Gaddafi, leader of Libya. The letter refers to the ongoing trial of five Bulgarian nurses and a Palestinian doctor in Tripoli.

The six face death penalty charges of deliberately infecting children with HIV in 1998, although independent science-based evidence by international experts has not been permitted in court. Among the disallowed scientific evidence is a 2003 report requested by Libya: the report was written by Luc Montagnier, a co-discoverer of the HIV virus, and Italian microbiologist Vittorio Colizzi. This report concluded that the infection was caused by poor hygiene and reuse of syringes, and that the infections preceded the arrival of the healthcare workers.

The trial has attracted widespread attention in the scientific and medical volunteer community. A decision is expected soon.

(Source: *Nature* (2006) 444:146)

#### **MONTESSORI EDUCATION EVALUATED**

Montessori education is a method of schooling originally used with Italian pre-school children from disadvantaged backgrounds. It has grown in popularity, with 5,000 schools in the USA and several schools in Singapore as well.

The team of Angeline Lillard and Nicole Else-Quest have recently published research in the high-profile journal *Science*. The pair studied the social and academic impact of Montessori education in a public sector school setting located in Milwaukee, Wisconsin. Randomisation was performed using the existing school district lottery, and was designed to avoid the confounding effect of “intention to enroll”.

In this study, Montessori-educated 5-year-olds had improved language and Mathematics skills. Executive function was also better. Behavioural outcomes were also superior in the Montessori group: these children negotiated social scenarios using reasoning with reference to justice and fairness. They were more likely to be involved in positive shared peer play, as opposed to rough play of ambiguous intent (for example, wrestling without smiling).

The school in this study was noted to have a traditional and relatively strict implementation of Montessori teaching methods. It remains to be seen if these results can be replicated in less stringent Montessori implementations or in environments using selected aspects of the Montessori methods.

(Source: *Science* (2006) 313:1893-1984) ■