In the news

Stem cells 'can treat diabetes'

An experimental stem cell treatment has enabled patients with type 1 diabetes to go for as long as 4 years without insulin injections, researchers say.

A US-Brazilian project with 23 patients found most were able to produce their own insulin after a transplant of stem cells from their own bone marrow. Even those who relapsed needed less insulin than before.

But writing in the journal *JAMA*, the team warned the treatment may only work in those very recently diagnosed.

The treatment is designed to stop the immune systems of those with type 1 diabetes from mistakenly destroying the cells which create insulin.

To measure its effectiveness, teams from Northwestern University in the US and the Regional Blood Centre in Brazil, looked at levels of C-peptides, which show how well the body is producing insulin.

Twenty of the 23 patients who received the treatment became insulin-free – one for as long as 4 years. Eight had to return to insulin injections, but at reduced levels. The treatment did not work in three of the patients, and it was also unlikely to work in patients more than 3 months after diagnosis of diabetes, said Dr Richard Burt of Northwestern. This was because by this stage, the immune system had destroyed the body's islet cells.

It was also unlikely to be have any therapeutic benefits for those with type 2 diabetes, mainly associated with obesity, as these patients still make insulin.

Worrying association between eggs and type 2 diabetes

Researchers publishing in the journal *Diabetes Care* warned recently of the association between a high consumption of eggs and a substantial increase in the risk for type 2 diabetes. The US study found that men who consumed seven or more eggs per week were 58% more likely to develop type 2 diabetes than those who did not eat eggs, and women were 77% more likely to develop the condition if they ate at least one egg per day.

While it is known that eggs may influence glucose metabolism through their effect on cholesterol, the researchers noted that their study could not determine the mechanisms involved. Importantly also, an egg contributes about 0.7 g of polyunsaturated fat, whose effect on health might be more beneficial than harmful in terms of its effect on reducing cholesterol levels and may thus reduce the risk for type 2 diabetes.

Alzheimer's – type 3 diabetes?

Recent findings support evidence to suggest that diabetes plays a role in accelerated brain ageing. Alzheimer's disease may actually be a form of 'diabetes of the brain' – a third 'type' of diabetes – and it might be possible to avert Alzheimer's-related memory loss with insulin therapy. Researchers in the USA found that insulin can have a protective effect on memory-forming synapses in the brain.

Saliva testing for type 2 diabetes?

Researchers in India and the USA appear to be advancing towards the development of a saliva test for people's risk for type 2 diabetes and which could be used to monitor the effectiveness of treatment for the condition.

Saliva samples from people with type 2 diabetes and others without the condition were analysed for protein biomarkers of diabetes. They identified 65 proteins that appeared twice as often in the samples from people with diabetes as from those without the condition. It is hoped that these findings might lead to novel, non-invasive testing for the detection and management of diabetes.

Latest CDA guidelines

The Canadian Diabetes Association (CDA) has published the latest edition of the *Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada*. The 2008 Guidelines are intended for use by healthcare professionals working in diabetes-related fields and cover screening, prevention, diagnosis, care, management, and education for people living with type 1 diabetes, type 2 diabetes, or gestational diabetes.

Visit the CDA website to download the Guidelines and for more information (www.diabetes.ca/for-professionals/resources/2008-cpg/).

Intensive glucose control in ICU: increased mortality

Hyperglycaemia is common in critically ill patients but there is uncertainty about the value of strict glucose control. Now a large international trial, published in the *New England Journal of Medicine,* has shown increased mortality with intensive glucose control.

A total of 6104 patients admitted to ICUs at 42 hospitals in Australia, New Zealand, and North America were randomised to intensive or conventional glucose control. The target blood glucose range was 4.5–6.0 mmol/l in the intensive control group (IC) and 10.0 mmol/l or less in the conventional control group (CC). Mortality was 27.5% (IC) vs 24.9% (CC), a significant difference. The harmful effect of IC applied to both surgical and medical patients. Severe hypoglycaemia (blood glucose 2.2 mmol/l or less) occurred in 6.8% vs 0.5%. The number of days on ICU or in hospital, or on mechanical ventilation or renal-replacement therapy were similar in the two groups.

Scientists concluded that intensive glucose control was associated with increased mortality.