# Abstracts

## Glucose levels a risk factor for dementia, even in non-diabetics

A recent paper in the *New England Journal of Medicine* suggests that high glucose levels are a risk factor for dementia, even without the presence of diabetes.

Diabetes is known to be a risk factor for dementia. The authors of this paper looked at participants in the Adult Changes in Thought study and used 35 264 clinical measures of glucose levels and 10 208 measures of glycated haemoglobin levels from 2 067 participants without dementia to examine the relationship between glucose levels and the risk of dementia – 232 participants had diabetes and 1 835 did not. The mean age of participants was 76 years.

During follow-up over 6.8 years, dementia developed in 524 participants – 74 with diabetes and 450 without. Among those participants without diabetes, higher average glucose levels within the preceding 5 years were related to an increased risk of dementia. Diabetic participants with higher average glucose levels also had a higher risk of dementia than diabetics with a lower average glucose level.

The conclusion was that high glucose levels, with or without established diabetes, are a risk factor for dementia.

Crane PK, et al. N Engl J Med 2013;369:540-548. [http://dx.doi.org/10.1056/NEJMoa1215740]

## Haphazard prescribing of statins in the UK

Research published in *PloS One* shows that over a 2-year period only 1 in 3 patients who should be taking statins according to UK guidelines was prescribed them and that the drugs were prescribed inappropriately to 1 in 10 low-risk patients. The study was carried out by researchers from the University of Birmingham and looked at the extent to which general practitioners follow the guidelines for prescribing statins. They analysed patient records from 421 UK general practices. During the study, UK guidelines set a treatment threshold of a 20% 10-year cardiovascular risk based on a patient's age, smoking status, diabetes status, blood pressure and cholesterol levels.

The study identified nearly 6 million patients registered in the practices in May 2008. Those with diagnosed heart disease, aged 30 - 74, already on a statin and those without records of blood pressure or cholesterol were excluded – leaving over 300 000 patients. Of these, 13.8% were prescribed a statin in the next 2 years, 29% of whom were eligible under UK guidelines and 10% who were not.

This means that of those prescribed a statin, only 42% were considered to need one and most of the high-risk patients – thought to need a statin – did not receive one. This in spite of the fact that the average patient saw their GP 11 times over the 2 years of the study. At the same time, 1 in 10 low-risk patients was started on treatment when they did not need it. Patients over 65, with diabetes and who consulted their GP more often, were more likely to be started on statins.

Zhu WJ, et al. PLoS One 2013;8(7):e67611. [http://dx.doi.org/10.1371/journal.pone.0067611]

## Severe hypoglycaemia and cardiovascular disease

Individually, recent clinical trials have failed to show a beneficial effect of intensive glucose control on overall cardiovascular disease events in people with type 2 diabetes. However, meta-analyses of recent clinical trials show that intensive glucose control is associated with a reduced risk of non-fatal myocardial infarction in people with type 2 diabetes. At the same time it is known that severe hypoglycaemia is a potential risk factor for cardiovascular disease in type 2 diabetics, although the association is controversial and the possible effects of co-morbidity have not been fully investigated.

The authors of this paper have provided a systematic and quantitative summary of the association between severe hypoglycaemia and the risk of cardiovascular disease in type 2 diabetics and examined the sensitivity of the association to possible uncontrolled confounding by unmeasured co-morbid severe illness.

What they found was that severe co-morbid illness alone may not explain the association between hypoglycaemia and cardiovascular disease. This suggests that hypoglycaemia itself is associated with the higher risk of cardiovascular disease and that avoiding this condition in type 2 diabetics may be important in the prevention of cardiovascular disease.

Goto A, et al. BMJ 2013;347. [http://dx.doi.org/10.1136/bmj.f4533] (Published 30 July 2013.)

## Probiotic supplements do not reduce the incidence of diarrhoea associated with antibiotics

The prevention of antibiotic-associated diarrhoea and *Clostridium difficile* diarrhoea in older inpatients (PLACIDE) study is a randomised controlled trial that was conducted in nearly 3 000 patients aged 65 years and over being treated with at least 1 antibiotic in 5 hospitals in south Wales and northeast England.

Around half of the study participants were asked to take 1 capsule containing a fixed dose of live bacteria (two strains of *Lactobacillus acidophilus*, *Bifidobacterium bifidum*, and *B. lactis*) per day for 21 days, and between antibiotic doses where possible, while the other half received an identical placebo capsule, with the same dosing instructions. The researchers analysed stool samples from around half of the patients who experienced diarrhoea to determine the cause of their symptoms, including *C. difficile*.

They found that diarrhoea occurred in 10.8% of the patients given probiotics and was equally common (10.4%) in patients taking placebo (relative risk 10.04, 95% confidence interval (CI) 0.84 - 1.28; $p$=0.71). Diarrhoea caused by *C. difficile* was uncommon and occurred in about 1% of the patients taking probiotics and those on placebo (relative risk 0.71, CI 0.34 - 1.47; $p$=0.35).

The conclusion is that probiotic supplements do not reduce the incidence of diarrhoea in older people being treated with antibiotics.

Allen SJ, et al. Lancet, 8 August 2013. [http://dx.doi.org/10.1016/S0140-6736(13)61218-0]