ABSTRACTS

TYPE 2 DIABETES AND SULPHONYLUREA DRUGS

For the past 30 years there has been vigorous debate on the link between the use of sulphonylureas in type 2 diabetes and the risk of cardiovascular events. A team from the Institute of Health Economics, Edmonton, Alberta, headed by Scot Simpson, has set out to look at changes in the risk of death with the level of exposure to sulphonylurea drugs.

The authors used a retrospective cohort study of administrative data from Saskatchewan Health. They identified 5 795 subjects by their first-ever dispensation of an oral antidiabetic agent, who were then grouped according to how these drugs were used during follow-up. They excluded potential subjects using insulin or combination therapy. They looked at exposure through daily dose and how compliant to treatment the patients were and assessed the risk of death associated with higher versus lower exposure.

The average age of people in the study was 66, just under half were women and they were followed up for an average of 4 years. First-generation sulphonylureas were used exclusively by 120 subjects; glyburide by 4 138 and metformin by 1 537. The study found a greater risk of death associated with higher daily doses of first-generation sulphonylureas and glyburide, but not with metformin.

The conclusion was that higher exposure to sulphonylureas was associated with increased mortality among patients newly treated for type 2 diabetes, but not with metformin. The implication is that the manner in which blood glucose concentration is lowered may be as important as achieving recommended glucose targets.

Simpson SH, *et al. CMAJ* 2006; **174:** 169-174.

BLOOD DONATIONS AND HIV-1 IN SOUTH AFRICA

Anthon Heyns and colleagues have a recent paper in the *Journal of the American Medical Association* that is pertinent in the light of all the current controversy over who should and should not donate blood in South Africa. The South African National Blood Service collects more than 700 000 units of blood annually from a population in which 11.4% of people are infected with HIV-1. The authors found that the prevalence of HIV-1 in blood donations had increased to 0.26% (1:385), suggesting that a significant number of window period infective units were entering the blood supply – a risk of 3.4 per 100 000.

This study was set up to determine whether the implementation of a new donor selection policy and education programme introduced in 1999 was associated with reductions in the incidence and prevalence of HIV-1 in blood donations and a reduced transmission risk. They compared the prevalence of HIV-1 in 880 534 blood donations collected from 1999 to 2000 with the 791 639 blood donations collected from 2001 to 2002. They estimated the incidence of HIV-1 in 93 378 (1999 - 2000) and 67 231 (2001 - 2002) first-time donators and the residual risk for all donations in 2001 and 2002. All blood donations in the inland region of the South African National Blood Service were analysed.

The intervention that was introduced in 1999 was that all donor clinics in high HIV prevalence areas were closed. Programmes were initiated that targeted repeat donors and young people, along with HIV risk behaviour education programmes. Structured donor interviews were introduced and the donor self-exclusion questionnaire was enhanced. What was found was that the prevalence of HIV-1 in blood donations declined from 0.17% in 1999 - 2000 to 0.08% in 2001 - 2002 after the implementation of the new donor selection and education policy. The number of high-risk donations collected decreased from 2.6% to 1.7% and the likelihood of these donations being infected decreased from 4.8% to 3.25%. The likelihood of first-time donors being infected with HIV-1 also decreased, as did the number of donations from black people generally. Analysis of HIV-1 incidence in 2001 - 2002 suggests that there is a residual risk of collecting a window period infectious unit of 2.6 per 100 000.

The conclusion is that the intervention worked.

Heyns A du P, *et al. JAMA* 2006; **295:** 519-526.

FAT AND HEART DISEASE

Conventional wisdom, informed by multiple studies, has linked diet with cardiovascular disease – both its development and prevention. However, there are few long-term intervention data available, a gap that Barbara Howard and colleagues, using the Women's Health Initiative Dietary Modification Trial, sought to fill.

In their randomised controlled trial of 48 835 postmenopausal women aged 50 - 79, followed up over 8 years, they initiated intensive behaviour modification in group and individual sessions that were designed to reduce total fat intake to 20% of calories and to increase intake of vegetables and fruits to 5 servings a day and grains to at least 6 servings a day. The comparison group received diet-related education materials. The outcomes were fatal and non-fatal coronary heart disease, fatal and non-fatal stroke and coronary vascular disease – covering both entities.

The group of women who received intensive intervention succeeded in reducing their mean fat intake by 8.2% of energy intake, with small decreases in intake of saturated, monounsaturated and polyunsaturated fats. They also increased their intake of vegetables and fruits by 1.1 servings and their intake of grains marginally. These women had significant reductions in low-density lipoprotein (LDL) cholesterol levels, diastolic blood pressure and factor VIIc levels. However, the levels of high-density lipoprotein (HDL) cholesterol, triglycerides, glucose and insulin did not differ significantly between the intervention and comparison groups.

However, the numbers who developed coronary heart disease, stroke and cardiovascular disease were not significantly different between the two groups. The diet also had no effect on the incidence of these diseases between the two groups. The authors concluded that their results showed that, over a mean of 8 years, a dietary intervention reducing total fat intake and increasing intakes of vegetables, fruits and grains did not significantly reduce the risk of coronary heart disease, stroke or cardiovascular disease in postmenopausal women and had only modest effects on risk factors for these diseases. Now, being stuck in the paradigm that there must be beneficial effects to these interventions, the authors go on to suggest that more focused diet and lifestyle interventions may be necessary to improve risk factors and to reduce the risk of cardiovascular disease.

However, I still think that it is worth looking again at what exactly is the link between diet and cardiovascular disease, rather than ploughing on advocating dietary interventions that are poorly supported, if at all, by the available evidence.

Howard BV, *et al. JAMA* 2006; **295:** 655-666.

Bridget Farham