

WOMEN WITH DIABETES

Improvements in mortality trends for people with diabetes in the United States appear to be limited to men, with the disease continuing to greatly increase the risk of death for women. Using data from the National Health and Nutrition Examination Surveys spanning the period from 1971 to 2000, researchers analysed mortality data in self-reported diabetics and compared the results with the non-diabetic population. Men with diabetes showed a 43% relative reduction in mortality rate, a result similar to that for non-diabetic men. Mortality rates did not decrease among women with diabetes. Moreover, the difference in mortality rates between diabetic and non-diabetic women doubled. Limitations of the study include the reliance on self-reporting of diabetes, changes in diagnostic criteria over time, and the relatively small samples in the sex-specific analysis. Despite these problems, the authors surmise that the observed trend in mortality is significant, and postulate that the result may be secondary to differences in the pathophysiology, diagnosis, and treatment of cardiovascular disease and diabetic complications in women.

Ann Intern Med 2007; 147: 149-155

CALCIUM FOR HEALTHY BONES

Calcium and vitamin D supplements appear to reduce bone loss and lower the risk of fractures, according to Australian researchers. In a meta-analysis of 29 randomised controlled trials involving over 63000 individuals, outcome measures of bone mineral density and fractures were analysed. Results showed that calcium supplementation, alone or in combination with vitamin D, appears to be effective in prevention of osteoporotic fractures. Treatment over an average duration of 3.5 years was associated with a 12% risk reduction in fractures of all types and a reduced rate of bone loss of 1.19% in the spine. Daily doses of calcium over 1200mg

and of vitamin D over 800IU were associated with a greater risk reduction. The improvement in risk reduction was greater for those older than 70 years and for participants whose daily calcium intake was previously low. The authors comment that although results of previous trials have been inconclusive, the large number of patients included in this meta-analysis provides adequate statistical power to detect a treatment effect.

Lancet 2007; 370: 657-666

SELENIUM SUPPLEMENTS

Despite findings from animal models suggesting that selenium supplementation may improve glucose metabolism, it does not appear to be protective against type 2 diabetes in human subjects. Using secondary analysis of a randomised, double-blind, placebo-controlled trial, researchers aimed to determine whether selenium supplementation had a protective effect against diabetes over an average follow-up period of over 7 years. The trial, involving over 1000 people, was initially designed to assess the effects of selenium intake on the incidence of skin cancer. The development of diabetes was a secondary outcome of the original trial. Not only did selenium supplementation of 200µg daily fail to show a benefit in reducing type 2 diabetes, the cumulative incidence of diabetes was higher in those receiving selenium compared with patients given a placebo. The authors point out limitations of their study, including the use of a secondary end point, the self-reporting of diabetes, and a lack of information on possible unmeasured confounding risk factors. Despite these problems, the researchers conclude that selenium supplementation does not seem to prevent type 2 diabetes, and could actually increase the risk of developing the condition.

Ann Intern Med 2007; 147: 217-223



AF: TO SCREEN OR NOT TO SCREEN

Detection and treatment of atrial fibrillation (AF) leads to a dramatic reduction in negative sequelae such as stroke. British researchers aimed to determine the most effective screening method for AF by conducting a cluster randomised controlled trial involving over 14500 participants.¹ Primary care practices were randomly assigned to non-screening and screening arms. Patients over 65 years of age seen at screening practices were randomly allocated to either systematic screening (invitation for electrocardiography [ECG]) or opportunistic screening (pulse-taking by GP and ECG if pulse was irregular). Using newly identified AF as the main outcome measure, the detection rate of AF was assessed for each method. Active screening was found to detect significantly more cases than no screening. There were no differences in the rate of detection of AF between the two screening methods. The authors conclude that the greater cost, labour intensiveness, and intrusiveness of systematic screening are not justified and that opportunistic screening is the preferred method.

Separate research from the same UK-based group focuses on the accuracy of diagnosing AF on ECG by GPs and interpretative diagnostic software.² The results show that primary care practitioners have trouble detecting AF on ECG and that the addition of interpretative software does not necessarily address this problem. They conclude that strategies for community screening and diagnosis of AF must include appropriate training in reading the electrocardiogram.

¹ *BMJ* 2007; 335: 383

² *BMJ* 2007; 335: 380

Dr Tanya Grassi, MJA