

Masala

Trying calcium supplements to protect your bones. It may not be such a good idea. In a recent meta-analysis, data on about 12 000 participants from randomized controlled trials using calcium supplements without vitamin D were examined. Subjects on calcium showed a roughly 30% increase in risk for myocardial infarction and non-significant increases for stroke, death, and the composite outcome of myocardial infarction, stroke or sudden death (*BMJ* 2010;**341**:c3691). The authors proposed that one mechanism for the effect could be the danger of increased vessel calcification. They estimated that although treating 1000 people for 5 years would prevent 26 fractures, it would also lead to 14 myocardial infarctions, 10 strokes and 13 deaths.

Is there a link between high-density lipoprotein cholesterol (HDL-C) and incidence of cancer? Epidemiological data have demonstrated that lower levels of low-density lipoprotein (LDL) cholesterol are associated with a significantly higher risk of incident cancer. A meta-analysis sought to examine the relationship between (HDL-C) levels and the risk of development of cancer in large randomized controlled trials (RCTs) of lipid-altering interventions (*J Am Coll Cardiol* 2010;**55**:2846–54). With over 600 000 person-years of follow up and 8000 odd incident cancers a significant inverse association between baseline HDL-C levels and the rate of incident cancer was noted, which persisted after adjusting for baseline LDL cholesterol, age, body mass index (BMI), diabetes, sex and smoking status. For every 10 mg/dl increment in HDL-C, there was a 36% lower rate of the development of cancer.

A biomarker signature for Alzheimer disease (AD) that shows high accuracy in diagnosing AD based on protein patterns in the cerebrospinal fluid and even predicts future development of AD. When the concentrations of beta-amyloid protein 1-42 and phosphorylated tau181P protein in the cerebrospinal fluid were measured, it was found that AD presented a 'signature' pattern of low beta-amyloid levels and increased phosphorylated tau. This pattern was seen in 90% of AD patients, 72% of those with mild cognitive impairment and 36% of cognitively normal subjects. This biomarker signature was 100% sensitive in identifying patients with only mild cognitive impairment who progressed to AD over 5 years of follow up (*Arch Neurol* 2010;**67**:949–56).

Vertebroplasty beats analgesics in relieving pain of acute osteoporotic compression fractures. This was borne out in an open-label prospective multicentric trial that included subjects 50 years or older who had vertebral compression fractures on spine X-ray and with back pain for 6 weeks or less. It was encouraging that almost 50% of prospective subjects with acute fractures experienced spontaneous pain relief during the pre-randomization period. Finally, some 200 adults who had persistent pain were randomized to vertebroplasty and pain medication or to medication alone. The vertebroplasty group had significantly greater pain relief, beginning on the first day after the procedure and continuing through the end of follow up at 1 year (doi:10.1016/S0140-6736(10)60954-3).

The conventional advice on the interpregnancy interval after a miscarriage stands challenged. Women who conceive within 6 months of a first miscarriage have better outcomes in their next pregnancy than those who delay conception. A study from Scotland

examined data on over 30 000 women who had a miscarriage in their first pregnancy and then went on to conceive again. Compared with women who conceived 6–12 months after miscarriage, those who conceived earlier were almost 50% less likely to experience a miscarriage, ectopic pregnancy or termination in their second pregnancy. Women who conceived >24 months after miscarriage had the worst outcomes. The authors called for reconsideration of the WHO guidelines, which recommend that women wait at least 6 months before trying to conceive again (*BMJ* 2010;**341**:c3967).

Non-endoscopic testing for inflammatory bowel disease (IBD). A recent diagnostic meta-analysis examined the utility of testing for faecal calprotectin, a sensitive marker of intestinal inflammation, for screening patients with suspected IBD (*BMJ* 2010;**341**:c3369). In adults, the pooled sensitivity and specificity of calprotectin was 0.93 and 0.96, respectively. It was estimated that screening by measuring faecal calprotectin levels would result in a two-third reduction in the number of adults requiring endoscopy for the diagnosis of IBD.

Traditional practice is to advise bed rest for acute low-back pain (LBP) and sciatica. What is the evidence for this? Probably none. A recent Cochrane review examined this issue. Moderate quality evidence showed that patients with acute low-back pain may experience small benefits in pain relief and functional improvement from advice to stay active compared with advice to rest in bed; patients with sciatica experienced little or no difference between the two approaches. In any case, most subjects would love to remain out of bed (*Cochrane Database Syst Rev* 2010;**6**:CD007612).

Not many patients with obstructive sleep apnoea like the idea of wearing the positive airway pressure mask for its treatment. It is postulated that incremental withdrawal of serotonin during wake to sleep transition is a key mechanism that renders the pharyngeal airway collapsible. Serotonin promotion with reuptake inhibitors has demonstrated modest beneficial effects during non-rapid eye movement (NREM) sleep on obstructive sleep apnoea. Also, animal studies suggest a role for selective serotonin receptor antagonists (5-HT3) in rapid eye movement (REM) sleep. A study examined the efficacy and safety of a combination of ondansetron and fluoxetine in reducing the expression of disordered breathing during REM and NREM sleep in patients with obstructive sleep apnoea (*Sleep* 2010;**33**:982–9). The combination resulted in approximately 40% reduction of baseline apnoea–hypopnoea index and improved oximetry trends.

Popular diet plans for weight reduction are fraught with risks unless supervised. Little is known about the micronutrient quality of alternative weight-loss diets. A recent study, A TO Z study, assessed micronutrient intake in obese women randomly assigned to 4 popular diets that varied primarily in macronutrient distribution, viz. Atkins, Zone, LEARN (Lifestyle, Exercise, Attitudes, Relationships, Nutrition), and Ornish (*Am J Clin Nutr* 2010;**92**:304–12). After 8 weeks on any diet, though the energy intake decreased from baseline in all 4 groups and to the same extent, a significant proportion of individuals shifted to intakes associated with risk of inadequacy of various micronutrients, e.g. in the Atkins group for thiamine, folic acid, vitamin C, iron and magnesium.

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