

## Masala

### *Alpha-blockers for medical expulsion of renal calculi*

Researchers in the UK performed a systematic review to assess the effectiveness of alpha-blockers for medical expulsion of renal calculi. With stone expulsion rate as the primary outcome, 67 randomized trials totalling 6654 patients were included. All patients were above 18 years of age, had a single ureteric calculus and had presented with acute ureteric colic. Stone expulsion rates were nearly 50% higher and the stone expulsion time was 4 days shorter with alpha-blockers; patients given alpha-blockers had fewer episodes of ureteric colic and used less diclofenac than controls. The best results were seen in patients with distal stones more than 5 mm in size (*Int J Clin Pract* 2017;**71**: e12917, doi: 10.1111/ijcp.12917).

### *Re-infection or re-activation of *Mycobacterium tuberculosis*?*

The RIFAQUIN trial compared three different chemotherapy regimens in the treatment of patients with sputum-positive tuberculosis. Sputum cultures were performed at baseline and then at regular intervals. Patients with two cultures positive after 6 months of follow-up were included in a part of the study that used whole genome sequencing (WGS) of *M. tuberculosis* isolates. Single nucleotide polymorphisms (SNPs) were compared between baseline isolates and those obtained after 6 months to distinguish re-activation from re-infection. Of 36 pairs of isolates studied, 32 had a very low number of SNP differences indicating relapse, 1 had a mixed infection and 3 had significant SNP differences indicating re-infection. This molecular technique could provide valuable insights into the effectiveness of chemotherapy for tuberculosis (*BMC Med* 2017;**15**:71, doi: 10.1186/s12916-017-0834-4).

### *Effect of cholesterol-lowering on recurrence of breast cancer*

In a randomized, double-blind, phase 3 trial called BIG 1-98, the Breast International Group (BIG) randomized 8010 post-menopausal women with early-stage, hormone receptor-positive invasive breast cancer from 1998 to 2003. The primary aim of the trial was to compare outcomes in these patients with the use of tamoxifen or an aromatase inhibitor. However, data were also gathered on the use of cholesterol-lowering medication by the participants; use of these medicines was not protocol-driven but was at the discretion of the treating physician as part of routine clinical care. At baseline and at 6-month intervals thereafter, the level of serum cholesterol was measured and the use of cholesterol-lowering medicines (mainly statins) was assessed up to a follow-up of 5.5 years. Initiation of cholesterol-lowering medicines during endocrine therapy for carcinoma breast was associated with a 21% increase in disease-free survival, a 24% increase in breast cancer-free interval and a 26% increase in distant recurrence-free interval. These observational results need to be confirmed in a randomized, controlled trial (*J Clin Oncol* 2017;**35**:1179–88).

### *Contrast-induced nephropathy not prevented by prior hydration*

A MAstricht Contrast-Induced Nephropathy Guideline (AMACING) was a randomized, phase 3 trial in the Netherlands that enrolled 600 high-risk adult patients with renal insufficiency who were to undergo an elective procedure requiring the use

of intravascular iodinated contrast material. Patients were randomized to receive prophylactic 0.9% NaCl ( $n=332$ ) or no prophylaxis ( $n=328$ ) before the procedure. Serum creatinine was measured just before, at 2–6 days and at 26–35 days after the procedure. The primary outcome of a 25% or greater rise in serum creatinine values within 2–6 days of the procedure compared to baseline occurred in 2.6% of non-hydrated and in 2.7% of hydrated patients. Of 328 patients, 5.5% had complications associated with intravenous hydration (*Lancet* 2017;**389**:1312–22).

### *Vision loss after the use of stem cells for age-related macular degeneration*

Ophthalmologists from the USA warn of the perils of intravitreal injection of adipose tissue-derived stem cells for the treatment of age-related macular degeneration (AMD). They report three women aged 72, 78 and 82 years who found out about this experimental procedure from information about trials on the internet. Following the procedure, the patients developed vitreous haemorrhage, vitreal opacities and retinal detachment, which led to a dramatic fall in their visual acuity. At follow-up visits 1 year later, all three had profound visual impairment, much worse than that caused by their AMD at baseline (*N Engl J Med* 2017;**376**:1047–53).

### *Does dietary gluten restriction alter the risk of cardiovascular disease?*

This question has been answered by data from 64 714 women in the Nurses' Health Study and 45 303 men in the Health Professionals Follow-up study. These prospective studies assessed food item intake using a food-frequency questionnaire every 4 years over a period of 26 years. Over this period, 2431 women and 4098 men developed coronary artery disease. Taking into account other risk factors, there was no difference in the incidence of coronary artery disease between participants with the highest and lowest intake of gluten. Restricting dietary intake of gluten may lead to avoidance of beneficial whole grains without cutting the risk of heart disease (*BMJ* 2017;**357**:j1892).

### *Body weight fluctuations and the risk of cardiovascular events*

Treating to New Targets (TNT) was a randomized trial involving 10 001 patients with established coronary artery disease who were randomly assigned to two different doses of atorvastatin. As part of the trial protocol, body weight was measured at baseline, at 3, 6, 9 and 12 months, and every 6 months thereafter with a median follow-up of 4.9 years. Body weight variability was defined as the intra-individual variability in body weight between visits. After adjusting for confounders, greater body weight variability was found to be significantly associated with a higher rate of cardiovascular events—participants in the quintile with the highest variation in body weight had a 64% higher risk of a coronary event, 85% higher risk of a cardiovascular event, 124% higher risk of death, 117% higher risk of a myocardial infarction and 136% higher risk of stroke compared to those in the quintile with the lowest variation in body weight. It pays to maintain a steady (low) body weight (*N Engl J Med* 2017;**376**:1332–40)!

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