

Medibytes

Medibytes offer Fellows and Members short, informative, synopses of important or interesting papers published in specialty and other general medical journals. They are edited by Dr J Ferguson.

LIST OF ABBREVIATIONS atrial fibrillation (AF), percutaneous coronary intervention (PCI)

Air Travel, oral contraceptives and venous thrombosis

The literature suggests that long haul flights cause a two- to four- fold increased risk of venous thrombosis. A new crossover study of 71 healthy young volunteers who were subjected to an eight-hour flight, an eight-hour marathon movie and eight hours of their normal daily activities at two-week intervals has been published. After the flight, prothrombin fragment 1 and 2, thrombin-antithrombin complex and D-dimer were raised in 4 of 63 (6.3%) of the volunteers but no-one in the other two situations. Importantly the participants included 11 with the factor V Leiden mutation, 15 who took oral contraceptives and 15 exposed to both risks. As the literature would predict, the greatest changes occurred in those (6 out of 14) with the Leiden mutation taking oral contraceptives. It is important to note that as many as 5% of users of oral contraceptives have the factor V Leiden mutation and are thus at increased risk of venous thrombosis during flights of about eight hours in duration.

JS Kelly

From Schreijer AJM, Cannegieter SC, Meijers JCM *et al.* Activation of coagulation system during air travel: a crossover study. *Lancet* 2006; **367**:832–8.

Air travel, hypoxia and venous thrombosis

Venous thromboembolism associated with air travel has been attributed to prolonged sitting and to hypoxia at cabin altitude pressures of 1,524–2,438 m. Healthy volunteers aged 18–40 years (n=49), aged >50 years (n=12), and women aged 18–40 years taking combined oral contraceptive pills (n=12) were studied. Volunteers with factor V Leiden G1691A and prothrombin G20210A mutations were excluded. A crossover study using a hypobaric chamber compared sitting for eight hours at sea level with sitting at 2,438 m elevation. Coagulation, platelet and endothelial activation and fibrinolysis showed no significant differences between sea level and high altitude. Airline passengers should exercise.

N Finlayson

From Toff WD, Jones CI, Ford I *et al.* Effect of hypobaric hypoxia, simulating conditions during long-haul air travel, on coagulation, fibrinolysis, platelet function, and endothelial activation. *JAMA* 2006; **295**:2251–61.

Circumferential pulmonary vein ablation for atrial fibrillation

Circumferential pulmonary vein ablation has previously been reported to be effective for chronic AF. This randomised study of 146 patients examined the long term efficacy of ablative therapy in patients with chronic AF. Patients were randomised to receive amiodarone (200 mg/day) and undergo two cardioversions within the first three months or ablation. The ablation group also received amiodarone (200 mg/day) six weeks prior to ablation and three months post ablation. Patients were then monitored for one year by rhythm event monitors. On intention to treat, 74% of patients in the ablation arm and 58% in the control arm were free from AF at 12 months (p=0.05). This study suggests that circumferential pulmonary vein ablation is a reasonable option in the treatment of chronic symptomatic AF.

J Ferguson

From Oral H, Pappone C, Chugh A *et al.* Circumferential pulmonary-vein ablation for chronic atrial fibrillation. *N Engl J Med* 2006; **354**:934–41.

Standard therapy in migraine for 24 weeks is no better than verum and sham acupuncture for six weeks

In a randomised, blinded, adequately powered clinical trial in migraine patients, standard therapy for 24 weeks of verum or sham acupuncture for six weeks, at the end of 26 weeks reduced the number of migraine days over four weeks by about 50% in 40–50% of the patients. Since statistically acupuncture was more effective (47% verum acupuncture, 39% sham acupuncture and 40% standard therapy), the authors claim that in the absence of adverse side effects or contraindications, acupuncture is a reasonable alternative to standard therapy with beta blockers, flunarizine and valproic acid. However, the large drop-out of patients on standard therapy who had expected to receive acupuncture, and the results from other studies of acupuncture on pain, must raise the possibility that the greater or lesser efficacy of all three treatments is a placebo effect.

JS Kelly

From Diener H-C, Kronfeld K, Boewing G *et al.* Efficacy of acupuncture for the prophylaxis of migraine: a multicentre randomised controlled clinical trial. *Lancet Neurology* 2006; **5**:310–16.

Menopausal depression

The concept of involuntional melancholia fell out of fashion many years ago, with depression in menopausal women being attributed to the usual social and biogenetic vulnerabilities. Now an eight-year study of mood in pre-menopausal women with no history of depression found the risk of developing a depressive illness increased by a factor of 2.5 during the menopausal transition once confounding variables were removed. A strong relationship existed between depression and changes in reproductive hormone levels. So there may be a discrete, hormonally driven type of depression associated with the menopause that affects women who would otherwise not become depressed.

G Masterton

From Freeman EW, Sammel MD, Hui L, Nelson DB. Associations of hormones and menopausal status with depressed mood in women with no history of depression. *Arch Gen Psychiatry* 2006; **63**:375–82.

La belle indifference

Generations of students have learned that *la belle indifference*, i.e. the patient seeming to lack appropriate concern about their symptoms, pointed to the diagnosis being hysteria (now termed conversion disorder). A systematic review of studies of neurological presentations found the median frequency of *la belle indifference* was 21% in conversion disorders and 29% in organic disorders. The most common explanation for the sign was the patient putting on a brave face. Given the poor quality of the evidence, the authors recommend the feature should be disregarded until well designed studies clarify its utility.

G Masterton

From Stone J, Smyth R, Carson A, Warlow C, Sharpe M. La belle indifference in conversion symptoms and hysteria: systematic review. *Br J Psychiatry* 2006; **188**:204–9.

The nuclear envelope and disease

The nuclear envelope separates chromosomes from cytoplasm. It is not just an architectural stabiliser. Protein mutations in the membranes can cause 'nuclear envelopopathies' whose phenotypes include cardiac and skeletal myopathies, partial lipodystrophy, peripheral neuropathy and premature aging. Most tissues affected in the envelopopathies are mesenchymal in origin. A subgroup of envelopopathies, named the laminopathies, are caused by mutations in the LMNA gene. This is fascinating because it seems there is a link between proteins of the nuclear lamina and fundamental cellular functions including gene

transcription and DNA replication. What was thought previously to be a rather dull organelle, is dynamic and fundamental to nuclear functions.

I Laing

From Somech R, Shaklai S, Amariglio N, Rechavi G, Simon AJ. Nuclear envelopopathies – raising the nuclear veil. *Pediatr Res* 2005; **57**:8R–15R.

There's a lot of it going on!

47 percent of US scientists funded by the National Institutes of Health responded to a survey regarding engagement in some 16 inappropriate scientific behaviours during the previous three years. Two percent reported behaviours used by the US Office of Science and Technology Policy to define research misconduct (fabrication, falsification, plagiarism). However, 33% reported at least one of the authors' top ten other inappropriate behaviours, including suppressing data, overlooking flawed data, and changing reports to suit funders, multiple publication, and inappropriate authorship. Defining research misconduct by fabrication, falsification and plagiarism is too narrow; other misbehaviours equally threaten the integrity of science.

N Finlayson

From Martinson BC, Anderson MS, de Vries R. Scientists behaving badly. *Nature* 2005; **435**:737–83.

Service with a smile

In a descriptive study of over 450 inpatients and outpatients at a hospital in New Zealand, patients were asked to rank their opinions of doctors' dress styles and appearances. Most patients preferred to be called by their first name, to be introduced to a doctor by full name and title, and to see the doctor's name badge worn at the breast pocket. They preferred doctors to wear semi-formal attire, but the addition of a smiling face was even better. The next most preferred styles were semi-formal, without a smile, followed by white coat, formal suit, jeans, and casual dress. Patients were more comfortable with conservative items of clothing, such as long sleeves, covered shoes, and dress trousers or skirts, than with less conservative items such as facial piercing, short tops, and earrings on men. Older patients had more conservative preferences. The authors conclude that patients prefer doctors to wear semi-formal dress and are most comfortable with conservative items, but a smile made a big difference.

N Bhala

From Lill MM, Wilkinson TJ. Judging a book by its cover: descriptive survey of patients' preferences for doctors' appearance and mode of address. *BMJ* 2005; **331**:1524–27.