

Medibytes

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

LIST OF ABBREVIATIONS Computed Tomography (CT), transfer factor (DLCO), dipeptidyl peptidase IV (DPP-IV), forced vital capacity (FVC), glucagons like peptide-1 (GLP-1), hepatitis B (HB), hepatitis C virus (HCV), intensive care unit (ICU), idiopathic pulmonary fibrosis (IPF), left ventricular(LV), myocardial infarction (MI)

GASTROINTESTINAL DISEASE

Hepatitis C is not transmitted via endoscopy

A large Italian study has suggested that well performed endoscopy is not a major risk factor for the transmission of Hepatitis C. The investigators studied the incidence of hepatitis C seroconversion in a cohort of over 9,000 patients who underwent endoscopy and in a comparison group of blood donors. All persons undergoing endoscopy remained negative for anti-HCV six months after the procedure and, in particular, none of the 912 patients who underwent endoscopy with the same instrument previously used on HCV carriers showed anti-HCV seroconversion. An important limitation of the study was that 8% of the endoscopy patients were lost to follow-up, however this study does support the hypothesis that endoscopy is not a risk factor for the transmission of hepatitis C.

J Ferguson

From Ciancio A, Manzini P, Castagno F *et al.* Can thorough cleaning of endoscopes prevent transmission of hepatitis C virus infection? *Ann Intern Med* 2005; **142**(11):903–9.

CARDIOLOGY

Sudden death in patients post myocardial infarction

The incidence of sudden death is highest in patients with LV failure, heart failure or both, in the 30 days following MI. This large international multicentre study followed up over 14,000 patients who had LV dysfunction, heart failure or both after myocardial infarction. Seven per cent of patients were either resuscitated after a cardiac arrest or experienced sudden death at a median of 180 days post MI and 83% of all patients who died suddenly did so in the first 30 days post discharge. This suggests that early implementation of strategies to prevent sudden death in selected patients is warranted.

J Ferguson

From Solomon SD, Zelenkofske S, McMurray JJV *et al.* Sudden death in patients with myocardial infarction and left ventricular dysfunction, heart failure, or both. *N Engl J Med* 2005; **352**:2581–88.

CHEST DISEASE

Diagnosing mesothelioma in patients with asbestos exposure

Serum concentrations of the glycoprotein osteopontin seem to be useful in distinguishing patients with asbestos exposure and no mesothelioma from those with asbestos exposure and mesothelioma. In this study they compared three groups: patients with asbestos exposure and mesothelioma; patients with benign asbestos disease; and patients with no asbestos exposure. Osteopontin was successful at identifying even early mesothelioma (stage I) with a sensitivity of 84.6% and a specificity of 88.4% at a cutoff value of 62.4 ng per ml.

J Ferguson

From Pass H, Lott D, Lonardo F *et al.* Asbestos exposure, pleural mesothelioma, and serum osteopontin levels. *N Engl J Med* 2005; **353**(15):1564–73.

Early referral for lung transplantation in idiopathic pulmonary fibrosis.

Prospective information on the course of IPF is sparse. 168 patients with mild to moderate IPF (FVC 50–90%, DLco \leq 25%), compatible high-resolution chest CT, and worsening disease over one year despite corticosteroids were studied over 72 weeks. Minimal physiological deterioration or worsening of dyspnoea occurred during follow-up, hospitalisation for respiratory reasons was frequent, and acute rapid IPF deterioration frequently caused death. Thirty-two out of thirty-six deaths were attributable to IPF (89%) and 15 of these (47%) were abrupt (< 4 weeks). Frequent monitoring and early referral for lung transplantation is needed for IPF.

N Finlayson

From Martinez FJ, Safrin S, Weycker D *et al.* The clinical course of patients with idiopathic pulmonary fibrosis. *Ann Internal Med* 2005; **142**:963–7.

HEPATOLOGY

Hepatitis B vaccine protects strongly over 15 years

One thousand five hundred and seventy-eight Alaskan Natives received HB vaccine \geq six months of age and were followed for 11 years. Eight hundred and forty-one (53%) were followed for 15 years and had similar characteristics to the 47% lost to follow-up. Anti-HB concentrations dropped from 822 mIU/l after vaccination to 27 mIU/l at 15 years, most markedly in those immunised \leq four years of age. HB virus infection in Alaskan Natives before vaccination was 50/1000 persons/year and after vaccination was 1.27/1000 persons/year. HB vaccination protects for at least 15 years at all ages. Other studies show that immune memory lasts longer than anti-HB concentrations and responds rapidly to further vaccination.

N Finlayson

From McMahon BJ, Bruden DL, Petersen KM *et al.* Antibody levels and protection after hepatitis B vaccination: results of a 15-year follow-up. *Ann Intern Med* 2005; **142**:333–341.

NEUROLOGY

Misdiagnosis of patients with 'conversion symptoms' remains uncommon

Since the 1970s, the misdiagnosis of conversion symptoms has been reported as around 4%, this is in contrast to earlier studies that described a much higher rate of misdiagnosis. Conversion symptoms are those that are unexplained by organic disease. In this systematic review the authors examined studies published since 1965 on the diagnostic outcome of adults with motor and sensory symptoms unexplained by disease. They found that there was a significant decline in the rate of misdiagnosis from the 1950s to the present day. They felt that this decline was due to study quality rather than the introduction of CT.

J Ferguson

From Stone *et al.* Systematic review of misdiagnosis of conversion symptoms and 'hysteria'. *BMJ* 2005; **331**(7523):989 (published online 2005 13 Oct).

PUBLIC HEALTH

Laws can change behaviour

The use of hand-held mobile phones while driving was banned by legislation in the UK in December 2003. Use of mobile phones while driving was surveyed at three sites in Birmingham, UK, during the rush hour ten weeks before (12,567 observations) and ten weeks after

(11,606 observations) banning was introduced. Mobile phone usage while driving fell significantly at two of three sites by a half from 1.85% to 0.97%. Legislation reduces the use of mobile phones while driving, at least in the short-term, but the effect on accidents and injury are not yet known.

N Finlayson

From Johal S, Napier F, Britt-Compton J, Marshall T. Mobile phones and driving. *J Pub Health* 2005; **27**:112–3.

RESUSCITATION

Albumin and saline equally good for resuscitation

Six thousand nine hundred and ninety-seven patients aged \geq 18 years in 16 Australian and New Zealand tertiary care ICUs judged to require fluid resuscitation were allocated randomly to receive 4% albumin or normal saline. Cardiac surgery, liver transplant, and burns patients were excluded. All-cause mortality at 28 days did not differ in relation to fluid therapy (albumin 20.9%, saline 21.1%), and neither did secondary outcomes (new organ failure, renal replacement duration, ventilation, ICU stay, hospital stay). This study showed that resuscitation with albumin or saline gives similar results in a wide variety of critically ill patients.

N Finlayson

From Finfer S, Bellomo R, Boyce N *et al.* A comparison of albumin and saline for fluid resuscitation in the intensive care unit. *New Eng J Med* 2004; **350**:2247–2256.

INFECTIOUS DISEASES

Meningitis not related to cochlear implants in UK study

Bacterial meningitis following cochlear implants was reported in Europe and North America in 2002. Implants with a newly designed positioner to bring the implant electrodes close to the cochlear nerve terminals were implicated and were withdrawn. One thousand eight hundred and fifty-one children (66 with positioners) received implants prior to October 2002. None developed meningitis and overall mortality was not increased. One thousand seven hundred and seventy-nine adults (139 with positioners) received implants, five developed meningitis (none with a positioner), and three died. Four of five meningitis patients had other risk factors for meningitis (prior meningitis, splenectomy, immunosuppression, nasopharyngeal cancer). No association between cochlear implants or positioners and meningitis was found in the UK.

N Finlayson

From Summerfield AQ, Cirstea SE, Roberts KE *et al.* Incidence of meningitis and of death from all causes among users of cochlear implants in the United Kingdom. *J Pub Health* 2004; **27**:55–61.

Not the usual cystitis

Emphysematous cystitis is a rare condition characterised by gas in the bladder or the bladder wall. This paper reports three cases. The condition is seen most often in women, in poorly controlled diabetes mellitus, or associated with urinary tract obstruction. Severe abdominal pain may mimic an acute abdomen, leading to laparotomy. It is usually caused by enterobacter species. Radiography usually shows gas in the bladder wall or in the bladder cavity with an air-fluid level in the erect position. CT scanning may also be needed. Treatment is by catheter drainage of the bladder, initial treatment with a third-generation cephalosporin, and control of diabetes mellitus.

N Finlayson

From Chong SJ, Lim KB, Tan YM *et al.* Atypical presentations of emphysematous cystitis. *Surgeon* 2005; **3**:109–12.

GENETICS

Roots of civilisation: Polynesians

The origin of the Polynesian peoples has been disputed. Studies of mitochondrial DNA from populations in mainland China, South East Asia, Taiwan, and Polynesia have clarified this puzzle. Aboriginal Taiwanese, who now constitute 2% of the population of Taiwan, are quite separate from the majority Chinese (Han) population and share three specific mitochondrial DNA mutations with Polynesian people. Polynesians seem to have originated from Taiwan, though the origins of the Taiwanese themselves remain a mystery.

N Finlayson

From Trejaut JA *et al.* *PLOS Biology* 2005; **3**(8): <http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pbio.0030247>

Roots of civilisation: The Shetland Islands and Orkney

Scandinavian invaders have had a major effect on the British Isles and the other islands of the North Atlantic. A survey of Y-chromosomal (male) and mitochondrial (female) DNA in the North Atlantic region has shown Scandinavian ancestry high in Shetland (44%) and Orkney (30%) and less along the northwest Scottish coast (15%)

but with equal male and female contributions. In the Western Isles of Scotland, male Scandinavian ancestry (22%) exceeded female ancestry (11%). More distant Iceland showed male Scandinavian ancestry (75%) much higher than female ancestry (34%). Scandinavian family groups probably settled close to their homeland, while lone males travelled further and married local females.

N Finlayson

From Goodacre S, Helgason A, Nicholson J *et al.* Genetic evidence for a family-based Scandinavian settlement of Shetland and Orkney during the Viking periods. *Heredity* 2005; **95**:129–35.

PAEDIATRICS

Resuscitation of the very premature newborn

A recent ruling of a Texas Supreme Court authorised a doctor to resuscitate a potentially viable very premature newborn against the parents' wishes. This ruling is against the partial consensus of the medical and bioethics community that the decision properly belongs to the parents. The baby was born at 23 weeks gestation weighing 615 g, and went on to develop severe cerebral palsy and mental retardation.

The Texas Supreme Court Ruling rejects the policies of the American Academy of Pediatrics and the 'Good Medical Practice' guidelines of the Royal College of Paediatrics and Child Health. Such a ruling should be resisted in the interests of compassionate medicine.

I Laing

From Paris JJ *et al.* Resuscitation of the preterm infant against parental wishes. *Arch Dis Child* 2005; **90**:F208–210.

ENDOCRINOLOGY

Two new classes of oral antidiabetic drugs

Glucagon-like peptide I (GLP-1) is secreted following eating and stimulates pancreatic production of insulin. The GLP-1 mimetic, synthetic exenatide (Byetta; Lilly and Amylin) has been approved and has an extended half life when compared with the natural hormone. Dipeptidyl peptidase inhibitors prevent the catabolism of GLP-1 and in addition suppress glucagon production, another adverse feature of diabetes. Two DPP-IV inhibitors are in development, vildagliptin (Novartis) and sitagliptin (Merck & Co).

JS Kelly

From American Diabetes Association meeting published in *SCRIP* 2005; No3065.