

## Medibytes

Medibytes offer readers 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** Asthma Quality of Life Questionnaire (AQLQ), body mass index (BMI), cannabinoid (CB), confidence interval (CI), chronic obstructive pulmonary disease (COPD), cognitive behavioural therapy (CBT), forced expiratory volume in 1 second (FEV1), gastroesophageal reflux disease (GORD), peak expiratory flow rate (PEFR), proton pump inhibitor (PPI), randomised controlled trial (RCT)

### RESPIRATORY

#### *Randomised controlled trial of PEFR vs symptom monitoring in older adults with asthma*

The aim of this study is to determine whether PEFR monitoring has value above and beyond symptom monitoring when used as part of an asthma management plan.

Two hundred and ninety-six adults were recruited and randomly assigned in equal numbers to either use of symptoms or PEFR, and were monitored every six months for two years.

No significant differences were found between PEFR and symptom monitoring in the primary or secondary study outcomes: health care utilisation, AQLQ scores, and lung function. Asthma Quality of Life Questionnaire scores and FEV1 increased significantly for both groups between baseline and six months. Inhaler technique improved substantially in both groups.

This study indicates that PEFR monitoring has no advantage over symptom monitoring as an asthma management strategy when used in a comprehensive asthma management program. Improved outcomes in both groups suggest that understanding proper medication use, regular monitoring of asthma status, and understanding how to respond to changes, are of primary importance.

A Mohammed

*From* Buist S, Vollmer WM, Wilson SR, Frazier EA, Hayward AD. A randomised trial of peak flow versus symptom monitoring in older adults with asthma. *Am J Respir Crit Care Med* 2006; **174**:1077–87.

#### *Role of GORD symptoms in exacerbations of COPD*

The impact of GORD on exacerbations of COPD has never been evaluated. This study looked at prevalence of GORD symptoms in COPD patients and the effect of those symptoms on the rate of exacerbations of COPD per year.

Subjects with COPD were recruited from the outpatient clinics, and patients were asked to complete the Mayo

Clinic GORD questionnaire. Clinically significant reflux was defined as weekly heartburn and/or acid regurgitation. Other outcome measures noted were frequency and type of COPD exacerbations.

Eighty-six patients were enrolled. Thirty-seven per cent of patients reported GORD symptoms. The mean FEV1 was similar in those with or without GORD. The rate of exacerbations of COPD was twice as high in patients with GORD symptoms compared to those without symptoms (3.2/yr vs 1.6/yr,  $p=0.02$ ).

The authors conclude that patients who have COPD and also GORD symptoms are more likely to have an increased number of COPD exacerbations.

A Mohammed

*From* Rascon-Aguilar IE, Pamer M, Wludyka P, Cury J *et al*. Role of oesophageal reflux symptoms in exacerbations of COPD. *Chest* 2006; **130**:1096–1101.

### PSYCHIATRY

#### *Adherence therapy in schizophrenia*

A minority of patients do not adhere to their treatment requirements, even when the consequences can be life-threatening. In psychiatric practice, where non-compliance is addressed by measures such as mental health legislation and depot medication, strategies to enhance patient adherence through CBT techniques are being evaluated. Adherence therapy, a recently developed CBT-based manual approach, has been tested in an RCT that involved 300 patients diagnosed with schizophrenia and followed up for one year, the comparator being didactic health education. In spite of high treatment fidelity with the CBT programme, adherence therapy did not improve medication adherence or clinical outcome.

G Masterton

*From* Gray R, Leese M, Bindman J *et al*. Adherence therapy for people with schizophrenia. European multicentre randomised controlled trial. *Br J Psychiatry* 2006; **189**:508–14.

### Obesity and mental disorders

A link between obesity and depression, especially in women, has long been recognised. Now an epidemiological survey of mental disorders, height and weight in an American population of 9,125 participants (70% response rate) confirms a BMI >30 is significantly associated with increased lifetime risks of major depression (OR=1.21), bipolar disorder (OR=1.47) and panic disorder/agoraphobia (OR=1.27). However, there is also a significantly decreased risk of substance misuse disorders (OR=0.78). There were no significant gender differences.

G Masterton

*From* Simon GE, von Korf M, Saunders K *et al.* Association between obesity and psychiatric disorders in the US adult population. *Arch Gen Psychiatry* 2006; **63**:824–30.

## SCIENCE

### Rimonabant: a new, first in class treatment for obesity, insulin resistance, dyslipidaemia and the metabolic syndrome

The central actions of the endogenous CB anandamide, in the brain and 2-archidonyl-glycerol in peripheral tissues on CB type 1 receptors are blocked by rimonabant. Blockade of CB1 receptor decreases appetite and has a direct action on adipose tissue and the liver to improve glucose, fat and cholesterol metabolism.<sup>1</sup> A number of clinical studies have now shown CB1 receptor blockade to improve insulin resistance, HbA1c, triglycerides and high-density lipoprotein cholesterol (HDL-C), C-reactive protein levels, and reduce obesity in diabetic and non-diabetic patients.

In the most recent report,<sup>2</sup> 20 mg/day rimonabant for one year reduced weight and improved HbA1c, and a number of other cardiovascular risk factors in 339 overweight type 2 diabetics compared to controls. It is worth emphasising that the drop-out rate (66% retention) was higher than expected, a major side effect was self-reported depressed mood, and that patients with mood disorders had been excluded from the study.

JS Kelly

*From* Wierzbicki A S. Rimonabant: endocannabinoid inhibition for the metabolic syndrome. *International Journal of Clinical Practice* 2006; **60**:1697–1706.  
Scheen AJ, Finer N, Hollander P, Jensen MD, van Gaal LF. Efficacy and tolerability of rimonabant in overweight or obese patients with type 2 diabetes: a randomised controlled study. *Lancet* 2005; **368**:1660–72.

## CARDIOLOGY

### Dopamine agonists and valvular heart disease

Several studies have shown a relationship between the ergot derived dopamine agonist pergolide and valvular heart disease. Pergolide may cause fibrosis in valve leaflets leading to regurgitation. An Italian group has performed an echocardiographic prevalence study on 155 patients taking dopamine agonists for Parkinson's disease. Clinically important regurgitation was seen in a significantly greater frequency in patients taking ergot derived agonists compared to controls. This suggests that echocardiographic follow up should be performed in patients on ergot derived dopamine agonists.

J Ferguson

*From* Zanettini R, Antonini A, Gatto G *et al.* Valvular heart disease and the use of dopamine agonists for Parkinson's disease. *N Engl J Med* 2007; **356**(1):39–46.

## GASTROENTEROLOGY

### Are PPI's associated with an increased risk of hip fracture?

Gastric acid facilitates the absorption of insoluble ingested calcium, therefore it has been suggested that drugs that inhibit gastric acid secretion may reduce absorption. A recent UK nested case control study was performed comparing cohorts of users on PPI therapy and nonusers who were older than 50. Cases were those patients with a hip fracture (13,556) and controls (135,386) were well matched. The risk of hip fracture was significantly higher in patients who took long term PPI therapy (>1 year), odds ratio 1.4; CI 1.26–1.54 and higher in patients who took high dose long term PPIs, odds ratio 2.65; CI 1.80–3.90. This suggests that long term PPI therapy at high doses may be associated with a higher rate of hip fracture.

J Ferguson

*From* Yang Y, Lewis J, Epstein S *et al.* Long-term Proton Pump inhibitor therapy and risk of hip fracture. *JAMA* 2006; **296**(24):2947–53.