

## Conference report

# British Thoracic Society Winter Meeting 2000

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The weather and the transport crisis threatened the British Thoracic Society Millennium Winter Meeting but, despite these problems, more than 1500 delegates attended. A wide range of topics in respiratory medicine was covered in the three days of the meeting. There were more overseas "experts" presenting than at previous meetings, and a "top and tail" or overview format was introduced to several of the slide and poster sessions. This article reviews some of the highlights of the meeting.

### Asthma

There were three main areas of focus in this year's BTS conference. Firstly, adherence to the international guidelines on asthma management<sup>1</sup> which, although emphasising the importance of both lung function and symptoms in guiding clinical decisions, clearly remain open to modification by future developments. Mitra *et al* from Dundee presented their study on asthmatic children in an outpatient setting where serial lung function data remained unhelpful, whereas their symptom scores were far more reliable in planning alterations to treatment.<sup>2</sup>

Secondly, in deciding whether to initiate long term treatment with inhaled corticosteroids in asthmatic patients a further study emphasised the importance of first documenting airway eosinophilia.<sup>3</sup> The results of this work from Leicester suggested that asthmatic patients who were non-atopic or who smoked were less likely to show a baseline eosinophilia or improve on inhaled corticosteroids, thereby extending the findings of a previous similar study.<sup>4</sup> A sentinel paper linking themes from these two studies was presented by Ward *et al*<sup>5</sup> in the excellent airway remodelling symposium. Their demonstration that changes in airway inflammation, remodelling, and bronchial hyperresponsiveness (BHR) in asthmatic subjects following treatment with inhaled corticosteroids were *not* temporally concordant was of prime importance. Improvements in lung function and inflammation seen after treatment with inhaled corticosteroids were seen *before* any changes in airway remodelling or BHR. This continues to be a vital area of asthma research and Ward's study leads us one step closer to understanding these important interactions. It also implies that current guidelines do not necessarily provide the best advice in terms of disease severity and progression for asthmatics on treatment with inhaled corticosteroids.

Thirdly, BTS guidelines recommend that patients should enjoy a degree of control over

their asthma using self-management plans.<sup>6</sup> This can only be achieved by better education from interested health care professionals, both in the hospital setting and in primary care.

Three papers brought attention to areas for improvement. One from Liverpool focused on highlighting the lack of implementation of these guidelines by nurses in the primary care setting (including some nurses with diplomas in asthma management) and suggested this should be addressed.<sup>7</sup> Another paper, funded by the National Asthma Campaign, confirmed that, despite ample evidence of benefit, many professionals caring for asthmatic patients either in hospital or in primary care do not offer their patients self-management advice or perhaps do so only verbally. The group suggested that free leaflets giving simple written instructions were preferable.<sup>8</sup> This was reinforced by a Nottingham pilot study demonstrating how they achieved good education and understanding in their asthmatic children using a multimedia package, enabling the children to comprehend complex information about asthma, its treatment, trigger factors, etc.<sup>9</sup> There was continuing emphasis, as there is each year, on the lack of compliance with prescribed "preventer" treatment by asthmatic subjects who consequently deny themselves the benefit of a reduction in lifetime exposure to oral steroids (and additionally place themselves at risk of premature loss of reversibility due to airway wall remodelling). Misconceptions, "steroid phobia", and poor understanding are partly to blame, leading to acceptance of daily symptoms such as wheezing as normal. This was illustrated neatly in one particular study of asthmatic patients who considered themselves well controlled despite 35% reporting daily wheeze.<sup>10</sup> Whether poor compliance is a direct result of lack of education or self-management plans remains a matter for speculation and continuing debate.

Finally, it is reassuring to know that, in children with severe persistent asthma, bronchoscopy and biopsy under general anaesthesia by experienced operators is safe,<sup>11</sup> particularly to those who work in this field where the need for greater understanding of the underlying multifactorial processes involved in severe asthma is essential to direct future research and treatments. This was brought to the fore by Professor N C Thompson in his Altounyan lecture on "Difficult asthma".

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### Chronic obstructive pulmonary disease (COPD)

This year there were two important papers highlighting the underuse of pre-seasonal influenza and pneumococcal vaccination.<sup>12 13</sup> This is seen to contribute to a continuing excess morbidity and mortality in susceptible respiratory patients<sup>14</sup> and a substantial number of people remain at risk despite the Department of Health's recommendations.<sup>15</sup> This must surely be addressed jointly by primary care and specialist respiratory physicians. It was also noteworthy that in one previous study it was estimated that half the patients admitted during the influenza outbreak had presented within a period of time suitable for treatment with neuraminidase inhibitors.<sup>16</sup> Another emphasis this year was the disappointing underuse of spirometric tests by GPs in referring patients with COPD, despite the BTS guidelines,<sup>17</sup> together with a continuing lack of uptake by some GPs of "open access" spirometry arranged by their local hospital specialists. Furthermore, despite clear BTS recommendations, such patients are not being given the benefit of long acting  $\beta_2$  agonists where there is good or partial reversibility. The place of pulmonary rehabilitation in the management of COPD led to lively discussion, as always.

In a randomised controlled trial of home exercise and education it has been shown that information and home visits to encourage pulmonary rehabilitation are ineffective in patients with COPD.<sup>18</sup> Interesting discussion was also generated by a series of presentations relating bacterial colonisation, airway inflammation, exacerbations of COPD, and interleukin 6 production.<sup>19-21</sup>

### Lung transplantation

It was good to hear of the success in lung transplantation for non-cystic bronchiectasis from Newcastle and, from the same group, their encouraging success in single lung transplantation for emphysema—so important given the scarcity of the donor pool.<sup>22 23</sup> The research findings from Cambridge describing conformational changes in  $\alpha_1$ -antitrypsin help to explain the proinflammatory stimulus leading to the severe and premature emphysema seen in enzyme deficient patients and offer exciting leads for further research.<sup>24</sup>

### Physiology and sleep disordered breathing

The physiological symposium was a welcome reminder to us all of the importance of this topic. Two papers are highlighted, one describing the relationship of lung mechanics to recovery after an exacerbation of COPD, and a second looking in an objective manner at the effect of short burst oxygen on exercise tolerance in patients with COPD.<sup>25 26</sup> Further insight into the controversy over the link between high blood pressure and obstructive sleep apnoea (OSA) was presented by Pepperell *et al* from Oxford. They conducted a randomised parallel controlled trial of treatment with therapeutic versus subtherapeutic continuous positive airway pressure (CPAP) in

men with OSA. Active treatment resulted in a significant fall in overall, awake, and sleeping blood pressure. The change in blood pressure observed with treatment was comparable to that seen with many of the currently available antihypertensive medications. These results support the hypothesis that OSA is a risk factor for increased blood pressure in men.<sup>27</sup>

### Acute respiratory distress syndrome (ARDS)

Neutrophil activation, which is thought to represent an early stage of inflammatory injury in ARDS, was one of the themes in these sessions. Endotoxin induced injury is a commonly used model for both ARDS and sepsis. The relationship between mortality in the ICU and neutrophil activation (using chemiluminescence in circulating neutrophils stimulated with phorbol myristate acetate) was explored by McAuley *et al*.<sup>28</sup> Contrary to what was expected, patients who died on the ICU were characterised by circulating neutrophils whose activation was low. This finding may reflect a compensatory anti-inflammatory response or sequestration of activated neutrophils into extravascular sites. The fact that alveolar neutrophils are also hyporesponsive to lipopolysaccharide (LPS) suggests that the former may be the actual mechanism involved. Another potential mechanism was elegantly demonstrated by Anning *et al*.<sup>29</sup> Under direct vision using an in vivo intravital microscopy set up, LPS was seen to increase permeability to FITC-labelled albumin while, at the same time, there was a rapid increase in neutrophil adherence to the vascular endothelium. This study therefore demonstrates, in a real time in vivo model, the importance of neutrophil activation and increased permeability of capillaries early in the inflammatory response to LPS.

### Interstitial lung disease (ILD)

Several potential mechanisms in ILD were discussed in a slide session, including the role of insulin-like growth factor<sup>30</sup> and potential benefits of thrombin inhibition in a mouse model of pulmonary fibrosis.<sup>31</sup> The symposium on ILD led to interesting debate, but one of the hot topics—namely, that of the evidence for clinical management—was thwarted by the rail chaos; perhaps this could be revisited in 2001.

### Entertainment

No report on the Millennium BTS meeting could be complete without an appreciation of the exercise tolerance of those who attended the BTS dinner and subsequent Ceilidh. The ability of BTS members to work hard at the meeting—listening to state of the art reviews and getting involved in poster discussions—and yet to go out and enjoy themselves must be one of the attractions of the Society.

1 National Heart Lung and Blood Institute. *Global initiative for asthma. Global strategy for asthma management and prevention*. NHLBI/VVHO workshop report. Publication no 95-3659. Bethesda: National Institutes of Health, 1995.

2 Mitra A, Crighton A, Booker C, *et al*. Symptom scores not spirometry guide clinicians in measuring treatment response in children with asthma. *Thorax* 2000;55(Suppl 3):A19.

- 3 Green RH, Brightling CE, Woltman G, *et al.* Factors predicting the response to inhaled corticosteroids in asthma. *Thorax* 2000;55(Suppl 3):A28.
- 4 Pavord ID, Brightling CE, Woltmann G, *et al.* Non-eosinophilic corticosteroid unresponsive asthma. *Lancet* 1999;353:2213–4.
- 5 Ward C, Bish R, Reid D, *et al.* Changes in airway inflammation, remodelling and PD<sub>20</sub> following inhaled corticosteroid treatment are not temporally concordant. *Thorax* 2000; 55(Suppl 3):A1.
- 6 British Thoracic Society. Guidelines for the management of asthma. *Thorax* 1993;48(Suppl 1):S1–24.
- 7 McShane E, Hammond M, Ryland I, *et al.* Implementing self-management plans: ready or not? *Thorax* 2000; 55(Suppl 3):A29.
- 8 Partridge MR, Barnes G, Harkness I, *et al.* Use of asthma self management plans by healthcare professionals: a UK survey. *Thorax* 2000;55(Suppl 3):A30.
- 9 McPherson A, Crook I, James C, *et al.* A pilot study to evaluate a multimedia package for children's asthma education. *Thorax* 2000;55(Suppl 3):A55.
- 10 Gruffydd-Jones K, Bell J, Fehrenbach C, *et al.* A study of patients' assessment of asthma management: the Asthma Control and Expectations (ACE) survey. *Thorax* 2000; 55(Suppl 3):A30.
- 11 Payne D, McKenzie S, Stacey S, *et al.* Safety of bronchoscopy and endobronchial biopsy in children with difficult asthma. *Thorax* 2000;55(Suppl 3):A19.
- 12 Bianchi SM, Woodhead MA. Are prophylactic measures being optimally used to prevent acute respiratory admissions during annual influenza outbreaks? *Thorax* 2000; 55(Suppl 3):A10.
- 13 Duncan T, Miles JF. Influenza and pneumococcal vaccination uptake rates in patients attending chest clinics. *Thorax* 2000;55(Suppl 3):A37.
- 14 Ahmed AH, Nicholson KG, Nguyen-Van-Tam JS. Reduction in mortality associated with influenza vaccine during the 1989–90 epidemic. *Lancet* 1995;346:591–5.
- 15 UK Health Department, Department of Health, Welsh Office, Scottish Home and Health Department. *Immunisation against infectious disease*. London: HMSO, 1996.
- 16 Hyden FG, *et al.* for the GG167 Influenza Study Group. Efficacy and safety of the neuraminidase inhibitor Zanamivir in the treatment of influenza virus infections. *N Engl J Med* 1997;337:874–80.
- 17 COPD Guidelines Group of the Standards of Care Committee of the BTS. BTS guidelines for the management of chronic obstructive pulmonary disease. *Thorax* 1997;52(Suppl 5):S1–28.
- 18 Tregonning M, Roberts S, Langley C, *et al.* Randomised controlled trial of home exercise and education in chronic obstructive pulmonary disease (COPD). *Thorax* 2000; 55(Suppl 3):A7.
- 19 Lloyd-Owen SJ, Patel I, Roland M, *et al.* Relation between sputum and blood interleukin-6 levels during COPD exacerbations. *Thorax* 2000;55(Suppl 3):A15.
- 20 Patel IS, Wilks M, Whitley AC, *et al.* Comparison of spontaneous and induced sputum for evaluation of bacterial colonisation and related airway inflammation in COPD. *Thorax* 2000;55(Suppl 3):A15.
- 21 Patel IS, Wilks M, Whitley AC, *et al.* Relationship between exacerbation frequency and bacterial colonisation in COPD. *Thorax* 2000;55(Suppl 3):A16.
- 22 Christie G, Rao J, Hilton CJ, *et al.* Lung transplantation for non cystic fibrosis bronchiectasis. *Thorax* 2000;55(Suppl 3):A8.
- 23 Melville AMS, Wardle J, Hasan A, *et al.* Single lung transplantation for emphysema: 1987–2000 and beyond. *Thorax* 2000;55(Suppl 3):A8.
- 24 Parmar JS, Bilton D, Chilvers ER, *et al.* The modulation of neutrophil function by conformational  $\alpha_1$ -antitrypsin. *Thorax* 2000;55(Suppl 3):A2.
- 25 Stevenson NJ, Costello R, Calverley PMA. Lung mechanics during recovery from exacerbations of chronic obstructive pulmonary disease. *Thorax* 2000;55(Suppl 3):A2.
- 26 Nandi K, Smith AA, Crawford A, *et al.* The effect of short burst oxygen treatment on exercise tolerance in patients with chronic obstructive pulmonary disease. *Thorax* 2000; 55(Suppl 3):A2.
- 27 Pepperell JCT, Mullins B, Dow SR, *et al.* Blood pressure change after treatment for obstructive sleep apnoea (OSA) with continuous positive airway pressure (CPAP). *Thorax* 2000;55(Suppl 3):A24.
- 28 McAuley DF, McCallion K, Harkin DW, *et al.* Neutrophil activation predicts mortality in ICU. *Thorax* 2000;55(Suppl 3):A14.
- 29 Anning PB, Finney SJ, Winlove CP, *et al.* Lipopolysaccharide causes increased vascular permeability and neutrophil rolling in post-capillary venules in vivo. *Thorax* 2000; 55(Suppl 3):A70.
- 30 Parker E, Bloor CA, Knight RA, *et al.* Transforming growth factor- $\beta$ -induced changes in insulin-like growth factor binding protein expression in lung fibroblasts. *Thorax* 2000;55(Suppl 3):A15.
- 31 Howell DCJ, Laurent GJ, Considine MG, *et al.* Abrogation of bleomycin-induced collagen accumulation by direct thrombin inhibition, is preceded by a reduction in  $\alpha_1$  (I) procollagen and CTGF mRNA levels. *Thorax* 2000; 55(Suppl 3):A14.