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Celebrating 25 years of the BTS: the Silver Jubilee Meeting

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The BTS took over the entire Queen Elizabeth II Conference Centre in London again this year to host its Silver Jubilee year Winter Meeting. This, the biggest and most comprehensive meeting so far, was also the first to accommodate an additional day for allied health professionals, held in conjunction with the Association of Chartered Physiotherapists in Respiratory Care (ACPRC).

PRESIDENT'S ADDRESS AND RECEPTION

In his Presidential address, "Beyond the prescription", Professor Martyn Partridge focused on the way health care delivery might change in the future with more consultations being delivered in community-based clinics at times which would be more convenient to our patients.

The BTS medal was jointly presented to Professor Peter Barnes and Dr Alistair Brewis for their outstanding contributions to respiratory medicine and, at the lively reception, Professor Sue Hill, Chief Scientific Officer at the Department of Health, presented the BTS Silver Jubilee Awards. These covered seven categories celebrating innovation and excellence in respiratory medicine care and service delivery and were a showcase of achievement through teamwork. Also at the reception, the BTS Young Investigator Prize was awarded to Dr David Simcock for his work on airway neovascularisation by airway smooth muscle in asthma.¹ The BALR prize went to Dr Yang for his studies on altered gene regulation in familial pulmonary hypertension² and the BLF prize winner was Dr Kewin for his work on a novel cytokine found to induce eosinophilic airway inflammation.³

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Other abstracts submitted for prizes covered a wide range of topics such as statin treatment in hypoxic pulmonary hypertension,⁴ the search for molecules to block polymerisation of Z α_1 -antitrypsin⁵ and the role of vascular endothelial growth factor on the cell cycle of alveolar cells.⁶

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

In recognition of the increasing interest and research in COPD, a large proportion of the programme was devoted to this topic. At the symposium "COPD – more than tobacco, not just the lung", Professor John Ayres gave a valuable global perspective of the disease, reminding us of the growing impact of biomass and vehicular pollution in the developing world. We also heard about how short-course cognitive behavioural therapy targeted at "revolving door" patients and delivered by a respiratory nurse specialist reduced acute health care utilisation in Newcastle. Along similar lines, Dr Sarah Booth raised awareness of some non-pharmacological tools such as cold facial stimulation that can be used to tackle breathlessness in COPD.

Continuing interest in co-morbidities⁷ and systemic pathologies^{8,9} associated with COPD were well covered. Particularly interesting was a pilot study from Edinburgh showing abnormal endothelial function in patients with COPD. Here invasive studies of forearm blood flow demonstrated impaired acetylcholine-mediated vasomotor response compared with controls,¹⁰ providing evidence for a mechanism of increased cardiovascular morbidity in COPD. The same group presented data on an association between the severity of emphysema and increased arterial stiffness, a marker of cardiovascular risk.¹¹

Ironically, the discussions on novel therapies for COPD were centred around old medicines such as the mucolytic erdoxime^{12–14} and the macrolide antibiotic erythromycin. In the 1-year double-blind placebo-controlled ELECT study, the

long-term use of erythromycin was associated with fewer exacerbations, but the mechanism was unclear with no observable effect on either airway or systemic inflammation.¹⁵ A review from Leicester of a multidisciplinary emphysema meeting for lung volume reduction surgery demonstrated an impressive throughput of patients which might advocate a more widespread use in other centres.¹⁶

Posters included a review of the successful establishment of the BTS home oxygen database,¹⁷ and several on exacerbation characteristics including a study on first exacerbations requiring hospital admission showing worrying deficiencies in diagnosis and treatment.¹⁸

NON-INVASIVE VENTILATION (NIV)

The delivery and experience of NIV continues to expand, but much clinical practice lacks trial evidence. Dr Mark Elliott presented valuable randomised controlled data from the 3CPO trial showing that, in acute cardiogenic pulmonary oedema, NIV induced a faster improvement in respiratory distress and metabolic disturbance than standard therapy alone, and that continuous positive airway pressure and non-invasive positive pressure ventilation appear to be equally efficacious.¹⁹ Evidence from two groups^{20,21} was also presented for the usefulness of a protocol to reduce weaning time in patients on NIV in both respiratory and medical wards. There was an excellent medical student presentation from the Lane Fox Unit at St Thomas' Hospital which looked at the number of patients initiated on home mechanical ventilation (HMV) over a 2-year period; increasing numbers of patients were reported, mainly due to an expansion of the obstructive sleep apnoea/obesity group despite a decrease in HMV for neuromuscular disease.²²

ASTHMA

The title of Professor Sebastian Johnson's lunchtime lecture perhaps most appropriately summarised the consensus of delegates at the asthma sessions: "80 years of asthma research: a lot done, still more to do". It was evident, though, that a great deal was being done, particularly on clinical aspects. These ranged from the investigation of the effects of mechanical heat recovery ventilation on asthma control²³ to

the assessment of a novel electronic pictorial asthma action plan.²⁴ The latter, of course, underlies the importance of enabling those patients with impaired literacy. Much has also been done in the basic sciences, with data suggesting that airway fibroblasts are highly susceptible to rhinovirus infection and that exogenous interferon- β , which protects the cells, may reduce virus-induced exacerbations.²⁵ Another group reported that airway remodelling in asthma occurs in tissues deeper than the basement membrane, with increased collagen deposition observed in the airway interstitium.²⁶

The symposium on the rational use of β_2 adrenoceptor agonists was dominated by issues of safety, particularly in uncontrolled asthma. A review of the evidence provoked discussions that continued well past the conclusion, with Professor Peter Barnes arguing that combination inhalers were the way forward as they guaranteed concomitant steroid administration.

INFECTION

Respiratory infection was dominated by the diagnosis, management and treatment of tuberculosis (TB). Professor Dame Margaret Turner-Warwick enthralled her audience with the horrors of some of the early treatments for TB. It sounded as if the demise of the patients may have been accelerated by the popular regimens of the day, which included excessive exercise followed by prolonged bed rest in the open air. There was also a comprehensive symposium on "International aspects of tuberculosis" which covered the areas of HIV and TB co-infection, effectiveness of directly observed therapy and methods to prevent transmission of TB—a presentation entitled "Finding NEMO!" Dr Jack Barker gave an exciting account of his work on TB in rural Zimbabwe which generated research on both treatment outcomes and also the role of traditional healers in Africa.^{27 28}

Meanwhile, in the spoken sessions, another highly commended medical student abstract showed no benefit from micronutrient supplementation in TB treatment;²⁹ a small study from Blackburn showed good results with a shorter treatment regimen in isoniazid resistance;³⁰ and a team from St Mary's confirmed the diagnostic advantage of combining microbiological and cytology testing in TB lymphadenitis.³¹ The gamma interferon assay was shown to improve diagnostic confidence when used in a contact screening study in an HIV positive population,³² and an entire spoken session was devoted to the assay,³³⁻³⁸ befitting its prominence in recent guidelines.

A study on community acquired pneumonia showed the usefulness of C-reactive protein measurement at day 4 to predict complications and detect failure of empirical treatment.³⁹ There was also reassuring data that lung function does not decline in an 8-year follow-up study of patients with non-cystic fibrosis bronchiectasis regardless of *Pseudomonas* colonisation,⁴⁰ and news that University College London has developed a murine model for empyema.⁴¹ Finally, we saw some evidence in support of exhaled breath condensate in assisting the diagnosis of invasive pulmonary aspergillosis⁴² and yet more evidence supporting statin use in pulmonary infection.⁴³

PLEURAL DISEASE

Mesothelioma featured prominently in this forum,⁴⁴⁻⁴⁶ rightly so as we have yet to reach the peak of this epidemic. A pro/con debate on the role of surgery in this desperate disease showed that the audience, which comprised mainly physicians, was not convinced of a significant role for extrapleural pneumonectomy over other treatment modalities. The same audience was polarised again in the following debate, this time in favour of thoracoscopy for cytology-negative unilateral effusions with just a few dissenters still holding on to the Abram's needle. In the final debate, Dr Robert Davies put forward a case for the seldom used indwelling pleural catheter in malignant effusions and he remarked that its advantages over pleurodesis were that it could reduce inpatient stay and deal more effectively with trapped lung.

LUNG CANCER

Dr Fergus Gleeson summarised the evidence so far for lung cancer screening which unfortunately amounted to no observed benefit on mortality. This was thought to be partly because "screening cancers" has a much longer doubling time. On a more political platform, Professor Mike Richards, the National Cancer Director, gave us an overview of the Cancer Reform Strategy which, among other things, aims to increase the capacity of our overstretched radiotherapy services and to reduce the time it takes for the National Institute for Health and Clinical Excellence (NICE) to appraise new cancer treatments. Notable posters included one from the UK Pneumonectomy Outcome Study⁴⁷ which challenged the spirometric values used in the current BTS guidelines for predicting postoperative complications. Their data from 315 pneumonectomies

suggest that the best predictors are a preoperative forced expiratory volume in 1 s (FEV₁) <60% and predicted postoperative FEV₁ \leq 30%.

LUNG TRANSPLANTATION

"Advancing the frontiers in lung transplantation" concentrated on the need to increase the number of transplants. Professor Shaf Keshavjee discussed how molecular diagnostics could help identify low-risk organs and enable surgeons to transplant lungs that previously may have been discarded. He also proposed ex vivo normothermic lung perfusion—as opposed to cold static perfusion—to increase the viability time for donor lungs by "repairing" organs before transplantation. Other topics at this symposium included a review of the new guidelines on selecting candidates for lung transplantation, the use of macrolides in post-transplant obliterative bronchiolitis and strategies for optimising post-transplant outcomes.

RESPIRATORY PHYSIOLOGY

A fascinating symposium discussed developments in the assessment of small airways function including excellent reviews of oscillometry, lung clearance index, assessment of alveolar structure using helium-3 magnetic resonance and the use of functional CT scanning. Notable posters covered topics such as the use of diaphragm electromyography in bronchodilator response⁴⁸ and the multidimensional nature of dyspnoea.⁴⁹ Also, an analysis of lung function testing in healthy men suggested that current reference equations in lung function testing may result in underdiagnosis of respiratory disease.⁵⁰

OTHER SYMPOSIA

In the joint BTS/BSACI symposium on anaphylaxis the hidden dangers of take-away food were illustrated by investigators who ordered "peanut-free" meals and then performed peanut ELISA. Worryingly, they found evidence of peanut in 20% of meals, with 10% being above the reaction threshold. We were told that research into the mechanisms underlying anaphylaxis has identified important mediators other than histamine, and it was proposed that markers unique to the mast cell could be used to classify the anaphylaxis phenotype rather than just the cause. The symposium concluded that adrenaline is a highly effective treatment for anaphylaxis, but it is still not being used early or often enough.

For acute lung injury, we were treated to a very informative talk on transfusion

of blood products by Professor Mark Looney from San Francisco. It would appear that female blood donors increase the risk of transfusion-associated lung injury in the recipient, and this raised the controversial issue as to whether high plasma volume blood products such as fresh frozen plasma should ideally be taken from men only.

Professor Alyn Morice started off the symposium on "Respiratory reflux" with a fascinating evolutionary insight into the inherent susceptibility of humans to both reflux and aspiration. Interestingly, bipedalism has straightened the angle between the oesophagus and the fundus of the stomach, making reflux inevitable, and our ability to phonate means that the soft palate is now further away from the epiglottis allowing refluxed contents to slip into the airways. He then presented some novel data which implicated reflux as a significant cause of exacerbations of cystic fibrosis. Other speakers provided us with updates on the role of reflux in both chronic cough and lung transplant rejection.

CONCLUSION

Undoubtedly, individuals will have gained on many levels from the Winter Meeting and its high calibre scientific content combined with smooth running made this year another great success.

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