Respiratory Medicine Symposium

A symposium held on 7 March 2013 at the Royal College of Physicians of Edinburgh

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INTRODUCTION

The overarching theme of the respiratory programme was the practical management of certain controversial areas within respiratory medicine. The session was well attended with 120 delegates, and was web-streamed to four international centres, the Egyptian Medical Syndicate and the Kasr El Aini Teaching Hospital in Cairo, the Faculty of Medicine UiTM Selayang Campus in Malaysia and the Himalayan Institute of Medical Sciences in Dehradun, India.

SESSION 1 – SO YOU THINK YOU KNOW…

The session began with Dr Patrick Kestevan discussing anticoagulation following venous thrombo-embolism (VTE). Balancing bleeding risk versus thrombosis is key, but applying this to individual patients is challenging. The risk of recurrent VTE depends on a complex interplay between intrinsic and extrinsic factors,[1] and the recurrence rates between spontaneous and precipitated VTE may not be as different as once thought. A normal D-dimer result one month after treatment is reassuring. Stopping anticoagulation should be based on patient history of VTE, persistent risks, persistent problems from an initial event (e.g. post-thrombotic syndrome, right heart strain, desaturation on exertion) and patient preference.

The probability of having asthma is determined by patient history and spirometry. Professor Neil Thomson discussed the diagnostic challenge of differentiating between chronic obstructive pulmonary disease (COPD) and asthma in certain groups as clinical, physiological, radiological and immunological factors overlap. Symptoms of chronic bronchitis are higher in smoking asthmatics than in those with COPD. A negative metacholine challenge test and a low exhaled nitric oxide (NO) measurement may help rule out asthma; a positive response to a mannitol challenge test may help rule in asthma, while a high exhaled NO measurement suggests eosinophilic inflammation that would be responsive to steroids.

Dr Graham Burn's talk on arterial blood gases (ABG) included an interactive assessment of straightforward examples to clarify common misconceptions and was a sobering demonstration of the session title, 'so you think you know...' The main message was beware the hyperventilating patient with a low pCO_2, and the importance in these situations of calculating the A-a gradient.

SESSION 2 – CORTICOSTEROIDS: FRIEND OR FOE IN RESPIRATORY MEDICINE?

Answering this question, Dr Nik Hirani suggested, is in one sense straightforward: there are no data for corticosteroid monotherapy in idiopathic pulmonary fibrosis (IPF). The interim analysis of the PANTHER trial triple therapy found it to be harmful,[2] although withdrawing immunosuppression in stable patients is not without potential risk. Despite the lack of data, he presented a clear, detailed review of the literature and talked through issues such as population heterogeneity.

Professor Neil Barnes reviewed the history of inhaled corticosteroids and their role within COPD and asthma. While their use in treating asthma was once controversial, he suggested that now no adult with asthma should be without this treatment. This is supported by observational data showing higher death rates in patients who are on step one of the Global Initiative for Asthma guidelines.[3]

SESSION 3 – CONTROVERSIES IN THE AIRWAYS

Dr John Hurst discussed the ever growing use of macrolides in respiratory medicine.[4] The mechanism of benefit may be antibacterial, anti-inflammatory, or even pro-kinetic. Erythromycin has a proven benefit in diffuse panbronchiolitis, and more recently evidence has shown its role in reducing exacerbation frequency in non-CF bronchiectasis and COPD. Before we start prescribing macrolides for all however, issues remain with *Mycobacterium avium* complex (MAC) infection, drug interactions and side-effects, and, perhaps most importantly, antibiotic resistance.

Dr Christine Bucknall and Professor Alyn Morice discussed the respective pros and cons of self-management of COPD. It is a complex intervention, and part of the debate hinged on what constitutes self-management: does it include 'hospital at home', education, and even pulmonary rehabilitation? Cochrane describe self-management as 'a term applied to educational programmes aimed at teaching skills needed to carry out medical regimens specific to the disease, guide health behaviour change, and provide emotional support for patients to control their disease and live functional lives.'[5] Professor Morice supported the principle of self-management, but maintained that self-management for patients with COPD is 'a waste of time' because there is lack of proven therapies; this contrasted with Professor Neil Barnes' earlier talk. Dr Bucknall took a more holistic view of self-management, describing the benefits seen for pulmonary rehabilitation, supported self-management and early treatment of exacerbations within COPD.

SESSION 4 – LUNG INFECTION: OLD DISEASE, NEW INSIGHTS

Dr Stephen Chapman described the different identification methods, such as candidate gene approaches and newer genome-wide association studies (GWAS) that can be used to find genetic susceptibilities to infection. These studies have the potential to identify genes that have not previously been implicated in disease to advance the understanding of disease biology. A novel gene has been found for example in a subgroup of Kenyan children who are susceptible to pneumococcus.

Professor Mark Woodhead discussed the history of Legionnaire's disease, including the recent outbreak in Edinburgh. Any water source that can be aerosolised is a potential source and Legionella has been identified in showerheads, taps, and even nebulisers and birthing pools. In the Edinburgh outbreak of July 2012 over 50 cases were found and mapped to a specific locality; while the source was never found, Professor Woodhead noted that the cases were distributed fairly linearly, in a valley downwind from a set of cooling towers. The BTS recommend clarithromycin plus or minus rifampicin or a fluoroquinolone for the treatment of Legionnaire's disease.

Professor J Stuart Elborn addressed gene therapies in cystic fibrosis (CF). In class 3 mutations, such as G551D, the CF transmembrane conductance regulator (CFTR) protein is transported to the cell membrane, but it does not function correctly. Ivacaftor is a drug which restores function to the protein. Ramsey et al. undertook a phase 3 study and showed that patients treated with ivacaftor had a 10% increase in FEV1 after 15 days, which was sustained over 48 days compared to placebo.[6] Theoretically, treatments that restore function to the CFTR protein could cure this condition, improving mortality and transforming lives, partly through easing the heavy treatment burden for patients with CF.

TAKE-HOME MESSAGE

This symposium delivered talks largely related to day-to-day clinical decision-making and the evidence that informs them. The interactive sessions and debates were lively and engaged the audience, and the final session of the day showed us that some 'new' insights, such as CF gene therapy, are already here.

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