

Highlights from this issue

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It used to be so easy—Part 1

Cystic fibrosis (CF) used to be so simple. The lower airway is sterile (the Professors said so, so it had to be true) and CF bronchial infections were related to three main bugs (*Staph*, *Haemophilus*, *Pseudomonas aeruginosa*) and the occasional odd gram negative funny if you were unlucky. Now, proving yet again that the more senior and dogmatic the Professor, the more likely they are wrong, we know from molecular techniques that the airway is teaming with bacteria (PLoS One 2010;5:e8578) and similar techniques have also taught us that the CF lower airway is a zoo as well, with a multiplicity of anaerobes coming to the fore. This month we publish data showing that despite intravenous antibiotics for a CF lung attack (no, we are not giving up on our initiative), primarily directed against aerobes, the anaerobic community within the airway remained largely unchanged. The patients improved clinically, so is this a case of 'so what?' We do not think so—it is difficult to believe that these anaerobes are beneficial, and clinical improvement during a CF lung attack is one thing, but preventing the next one may be quite another issue. Molecular microbiology has raised a huge number of questions, and there is a real need to understand whether it is over-sensitive, which are the key players, and whether some are beneficial. Most of us (particularly the male readership) will have had diarrhoea during a course of antibiotics; a challenging question—what is the airway equivalent of antibiotic-associated diarrhoea? *See page 579.*

It used to be so easy—Part 2

The main targets of CF treatment were the lungs and the pancreas, with the rest minor also-rans. Diabetes was treated with insulin only as a last resort, when blood sugars were sky-high, to avoid adding yet another item to the already formidable treatment shopping list. However, we are increasingly becoming aware that insulin has more effects than just controlling blood sugar, and insulin deficiency is associated with adverse effects on nutrition and lung function long before overt hyperglycaemia occurs. Unanswered questions include how to screen for insulin deficiency, when to

diagnose it, and when to start insulin. In this issue, Suratwala *et al* show an association between nocturnal hypoxaemia and the area under the curve of the glucose tolerance test in relatively well children and young adults with CF. This study does not sort out which is chicken and which is egg, or indeed whether both relate to a third factor, but the data are clearly important and should stimulate intervention studies. In an accompanying editorial, Nathan and Moran review the certainties and uncertainties in the field of CF-related insulin deficiency. CF is truly a complex systemic and multi-organ disease. *See pages 574 and 555.*

EMG_{para%max}: the Chest Physicians' ECG?

Two papers in this issue of Thorax investigate the clinical utility of parasternal EMG in patients with airway disease. The first (*see page 602*) looks at change in the parasternal EMG as a percentage of maximum (EMG_{para%max}) and the neural respiratory drive index (the product of EMG_{para%max} and respiratory rate) in patients hospitalised following a COPD lung attack. Both turned out to be responsive to change and better predictors of poor outcome and readmission than traditional and more widely used measures. In the second paper (*see page 609*) EMG_{para%max} was used to assess patients with asthma, including a population with nocturnal asthma. Values were higher in patients with asthma and were particularly high in patients with nocturnal asthma. The ability to monitor nocturnal asthma objectively without waking the patient has been something of a Holy Grail for researchers in this area. Is EMG_{para%max} the answer? Could it be as useful as the ECG is for Cardiologists? We await further studies with interest. Watch this space (and this bank balance!).

Sleep disordered breathing is costly

Readers with a long memory will remember that public health professionals have not always taken sleep disordered breathing seriously. The study by Jennum & Kjellberg (*see page 560*) reminds us why they should. Using Danish registry data and a case-control study design they estimate the annual direct and indirect costs of

snoring, obstructive sleep apnoea and obesity hypoventilation to be 705, 3800 and 11320 euros respectively. The latter two conditions were associated with the triple whammy of increased healthcare related costs, lower income and more unemployment. In a linked editorial Fietze (*see page 556*) points out that costs of road traffic accidents and other disasters linked to sleepiness would add considerably to these estimates. Health and social disadvantage predates diagnosis and effective treatment by as long as 8 years suggesting that strategies that increase recognition of these conditions would be cost effective and should be explored. Perhaps home respiratory polygraphy is one (*see page 567*). Sleep studies need to be anchored and cost effective – how much of the 'full' PSG is fully necessary? Another gold mine and gold standard question.

If I can, you can!

Nearer 60 than 50, AB has for the first time done a Podcast (No!) and Tweeted (No, No!!!). So if he can, anyone can. The least you can do is to follow our Tweets and listen to the Podcast (hit the website). Facebook follows. Surely you cannot be even more of a Luddite than Bush?! The 21st century has arrived!

Another contribution to the mortality statistics?

This 52 year old man had a three month history of cough, wheeze, breathlessness and pain, and this PET scan obviously shows a primary lung cancer with nodal deposits. So he should make his will and not start reading *War and Peace*, right? Or wrong? What do you think, BEFORE you turn to *Chest Clinic*? *See page 638.*

