airwaves

Wisia Wedzicha, *Editor-in-chief*

INFLAMMATION IN SEVERE ASTHMA EXACERBATIONS

As Turato and colleagues point out in their editorial in this month's *Thorax*, prevention of exacerbations has been the goal of most therapeutic interventions for the management of asthma. However, despite extensive investigation of inflammatory processes in stable disease, little is know about inflammation at exacerbations, particularly when severe. In this issue Qiu and colleagues present for the first time a study of inflammation in bronchial biopsies, taken from patients intubated for severe exacerbations of asthma. The authors found that there was an increase of airway eosinophils and neutrophils in asthmatic exacerbations compared with controls and there were increases in a number of chemokines (see figure). They also found an interesting correlation between CXCL5 and its receptor CXCR2 and eosinophilia in the biopsies at exacerbation. These changes are distinct from chronic obstructive pulmonary disease (COPD) where neutrophils are predominant at exacerbation while in asthmatic exacerbations similar numbers of both neutrophils and eosinophils are reported. The authors conclude that new treatments targeting the CXCR2/CRCL5 axis may be useful at asthma exacerbation.

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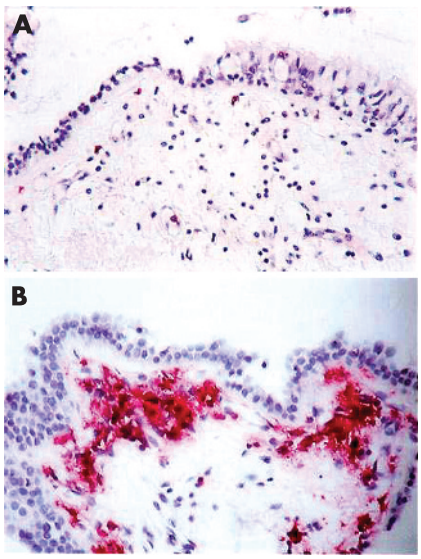
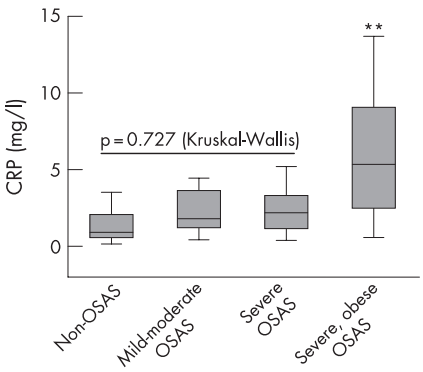


Neutrophil elastase positivity in the airway mucosa of (A) a patient with stable asthma and (B) a patient with a severe exacerbation of asthma. Original magnification ×200.



**Statistically significant difference between the more obese severe OSAS group (group 4) when compared with groups 1–3 by individual group comparison (p,0.05 for all comparisons).

NO BENEFIT OF SELENIUM IN ASTHMA

Oxidative stress occurs in asthma and it has been suggested that addition of selenium, which may be low in asthma, may potentially reduce inflammation and symptoms in asthma by increasing the activity of antioxidant enzymes. Shaheen and colleagues report a randomised, double blind placebo-controlled trial of selenium supplementation in adult asthma. Despite a 48% rise in plasma selenium, the authors report that selenium supplementation has no clinical benefit. In the accompanying editorial Feary and Britton discuss why observational epidemiological studies of dietary benefit fail to translate into positive trial results and suggest that in contrast to single nutrients, combinations of nutrients or even entire foods may be more relevant to asthma. Meanwhile they suggest that the sensible recommendation for people with asthma should be to eat a healthy balanced diet.

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C-REACTIVE PROTEIN AND SLEEP APNOEA

Obstructive sleep apnoea (OSA) and increased C-reactive protein (CRP) levels have both been associated with increased cardiovascular risk. In this issue of *Thorax*, Ryan and coworkers report a study of CRP levels, together with levels of another cardiovascular marker (homocysteine) in patients free of cardiovascular disease, but with OSA of varying severity and obesity (see figure). The results showed that OSA was not related to CRP or homocysteine levels, but CRP levels were strongly related to obesity. Furthermore, 6 weeks of continuous positive airway pressure treatment had not effect on the systemic markers. Thus there is a need to identify better markers reflecting cardiovascular risk in OSA.

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COPD FEV_1 DECLINE AND CRP

As Vestbo comments in his editorial, CRP is one of the key markers of systemic inflammation in COPD and has recently attracted a lot of attention. However, data showing that CRP is inversely associated with FEV1 come mainly from cross-sectional studies. In this month's *Thorax*, Fogarty and colleagues present data on CRP and lung function in a prospective study in the general population in Nottingham, UK, from 1991 to 2000. The authors confirm the cross-sectional findings, but were unable to show that CRP levels were related to forced expiratory volume in 1 s (FEV_1) decline over the study period. As Vestbo concludes, systemic inflammation is important in the systemic manifestations of COPD, but we are still far from understanding how systemic inflammation impacts on disease progression.

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PULMONARY PUZZLES

In this issue we publish the first of our new feature: Pulmonary Puzzles, this month submitted by Quint and colleagues. We would like to publish most case reports in this format and invite our readers to submit "Puzzles" for consideration of publication. One immediate advantage is that we will be able to publish more "Puzzles" each month than classical case reports and thus increasing the acceptance rate for case studies. Please view the *Thorax* website for submission details.

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