airwaves

Wisia Wedzicha, *Editor in Chief*

LONGER TERM OUTCOME AFTER ACUTE NIV

Non-invasive ventilation (NIV) has proven benefits in patients with COPD exacerbations complicated by hypercapnic respiratory failure, although there have been few data on the longer term outcome after the use of NIV for exacerbations. Patients admitted to hospital with COPD exacerbations and respiratory failure are often frequent exacerbators and one would therefore expect poorer outcomes in this group. In this month's *Thorax* Chu and colleagues describe a study of post-discharge outcomes in these patients and show that, within 1 year, 79.9% had been readmitted; 49% had died by 1 month and 63.3% had another life threatening event. In the accompanying editorial, Elliott discusses how the use of home long term NIV may reduce the impact of the exacerbation and prevent hospital readmission and mortality. There are some preliminary data to suggest that long term NIV may reduce exacerbations and hospital admission, but now the time has come for larger, controlled, well designed trials to address these important issues in COPD. Thus, NIV may have a role not only in reducing tracheal intubation and mortality during the COPD exacerbation, but longer term use may have an important effect on health status and reduction of the impact of exacerbations.

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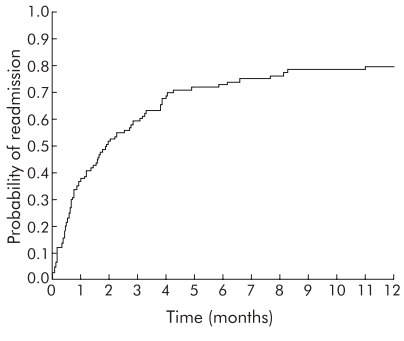

Kaplan-Meier plot showing readmission in patients with COPD who survived an episode of acute hypercapnic respiratory failure treated by NIV

MIP AND CARDIOVASCULAR RISK?

In this issue of *Thorax* we report intriguing data from the Cardiovascular Health Study in a paper by van der Palen and colleagues on the relation between respiratory muscle strength—estimated using the maximal inspiratory pressure (MIP)—and the risk of cardiovascular events in elderly individuals. In patients with COPD a reduced MIP is associated with respiratory and all cause mortality. Van der Palen and colleagues show that reduced MIP is an independent risk factor for myocardial infarction and cardiovascular death and possibly an increased risk of stroke. The association of MIP with cardiovascular risk factors was not mediated by inflammatory mechanisms. Similar associations were also found for the forced vital capacity. The suggestion is made that, as MIP is easy to measure, it can be used to identify patients at risk from cardiovascular disease.

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INFLAMMATION AND PNEUMONIA IN IMMUNOCOMPROMISED PATIENTS

Pulmonary infections are associated with inflammatory responses that relate to the severity of the infection, although there is little information on these responses in immunocompromised patients. In this issue Agustí and colleagues show that pulmonary complications in immunocompromised patients are associated with both local and systemic inflammation which increases with disease severity and with the presence of bacterial infection. Levels of interleukin (IL)-6 in the bronchoalveolar lavage (BAL) fluid were an independent predictor of mortality. Thus, IL-6 levels in BAL fluid and serum CRP levels may be used to guide appropriate management of pulmonary problems in immunocompromised patients.

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SMOKING, MUCUS AND EPIDERMAL GROWTH FACTORS

In smokers the numbers of airway goblet cells increase and submucosal glands hypertrophy, and this leads to an increase in mucus production in patients both with and without COPD. In this issue of *Thorax* O'Donnell and colleagues report a study of bronchial biopsy specimens in non-smokers and smokers with and without COPD. Epidermal growth factor expression—which has been linked to mucin expression—was increased in the airways of all smokers, irrespective of whether or not they also had COPD. MUC5AC, which is the predominant mucin secreted by the airway epithelium, was also increased in smokers and was associated with epidermal growth factor expression but, surprisingly, not with neutrophilic inflammation. These findings provide new information on the mechanisms of mucus production and the airway epithelial response to cigarette smoke.

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WHAT IS THE STARTING DOSE OF INHALED STEROIDS IN ASTHMA?

The various guidelines available for the management of asthma have not provided uniform recommendations on the starting dose of inhaled corticosteroids in asthma. In this month's *Thorax* Powell and Gibson describe a systematic review with the objective of establishing the optimal starting dose. The authors report that, in adults with asthma, starting with a moderate dose is equivalent to starting with a high dose and stepping down. Moderate doses were more effective than initial low doses. These results inform on the initial management of adults with asthma and avoid the frequent prescription of high doses of inhaled steroids.

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