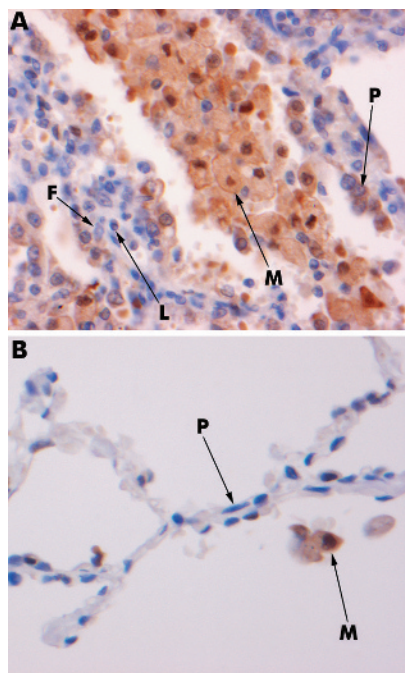


PROMISE FOR THIOREDOXIN IN ALI

Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) are still associated with a high rate of mortality. As Baudouin points out in his editorial, ALI is associated with a complex inflammatory process and trials of anti-inflammatory agents in ARDS have failed. In this month's *Thorax*, Callister and colleagues describe a new approach to ALI with the study of thioredoxin, a small ubiquitous protein that has been shown to impact on nearly all aspects of cell function. Thioredoxin levels were higher in bronchoalveolar lavage (BAL) fluid and plasma from patients with ALI than healthy controls. Lung tissue from patients with ALI also had greater staining for thioredoxin in alveolar macrophages and type II epithelial cells than control lung tissue (see figure).



Thioredoxin expression in (A) a lung tissue specimen from a representative patient with ARDS and (B) histologically normal lung tissue from a control patient. M, alveolar macrophage; P, pneumocyte; F, fibroblast; L, lymphocyte.

BAL fluid levels of thioredoxin were much higher in patients with ALI of pulmonary origin. These results are important and promising, and further work is required to elucidate the role of thioredoxin in this complex disorder and lead to novel approaches to treatment.

See pages 464 and 521

ENDOTHELIAL FUNCTION IN OSA

Obstructive sleep apnoea (OSA) is a potentially reversible cause of hypertension, and the mechanism of this association may be endothelial dysfunction. In this issue of *Thorax* Lattimore and colleagues describe the effect of continuous positive airway pressure (CPAP) on arterial endothelial and smooth muscle function. They found that, in patients with OSA, CPAP improved baseline endothelial nitric oxide (NO) release and stimulated endothelium dependent vasorelaxation in the systemic circulation. In the accompanying editorial, Ayas and colleagues discuss issues relating to prevention of cardiovascular disease in OSA with CPAP therapy. They conclude that large scale trials are needed to study the cardiovascular benefits of CPAP in OSA patients, with a composite measure of incident cardiovascular events as the primary outcome.

See pages 459 and 491

ELDERLY RAPID FEV₁ DECLINERS

Decline in FEV₁ is the hallmark of COPD, and some patients with COPD in whom the FEV₁ falls rapidly over time are described as "rapid decliners". In this issue of *Thorax* Mannino and Davis report an analysis of elderly US adults from the Cardiovascular Health Study. Patients with more severe COPD (GOLD stages 3 and 4) were more likely to be rapid decliners, and these rapid decliners were at greater risk of being admitted to hospital and of all-cause death. These results correspond to a 50–60% increased risk. The authors describe some of the methodological difficulties in the study of FEV₁ decline over a prolonged period, but conclude that both disease severity and the magnitude of lung function decline predict outcome in COPD.

See page 472

RISK OF BRONCHIOLITIS OBLITERANS IN CHILDREN

Bronchiolitis obliterans (BO) is a rare disorder in children. It often follows an infection and consists of inflammation and fibrosis in terminal and respiratory bronchioles. BO is found all over the world but, curiously, is more common in the southern hemisphere. In this issue of *Thorax* Colom and colleagues describe a case-control study of children under the age of 3 years from Argentina where BO is particularly common. The authors found that adenoviral infections and the need for mechanical ventilation were risk factors for developing BO in children. In their accompanying editorial, Smith and Fan describe the problem of post-infectious OB and suggest that research is needed to establish why specifically adenovirus causes OB. Markers of disease activity need to be found, then current treatments used in other types of OB need to be tested in children with post-infectious OB.

See pages 462 and 503

NO IN YOUNG CF CHILDREN

Despite the marked airway inflammation present in patients with cystic fibrosis (CF), exhaled nitric oxide (NO) has been shown to be reduced in CF, suggesting downregulation of epithelial inducible nitric oxide synthase (iNOS). In this month's journal, Moeller and colleagues describe for the first time a study in which iNOS gene and protein expression from very young children with mild lung disease were measured. Low levels of iNOS mRNA and protein expression were found in the lavage fluid from these children. The authors suggest that low iNOS expression may be an innate defect in CF, providing a potential target for intervention.

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