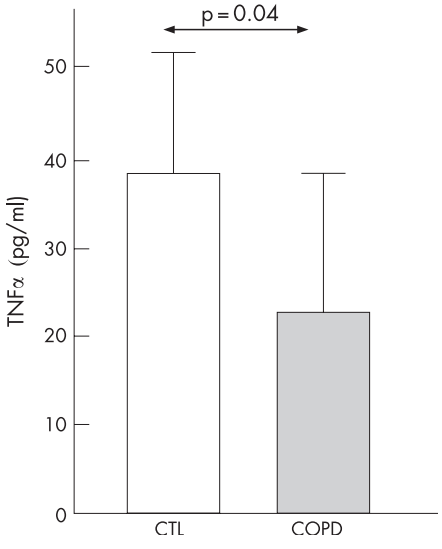
Wisia Wedzicha, Editor-in-Chief

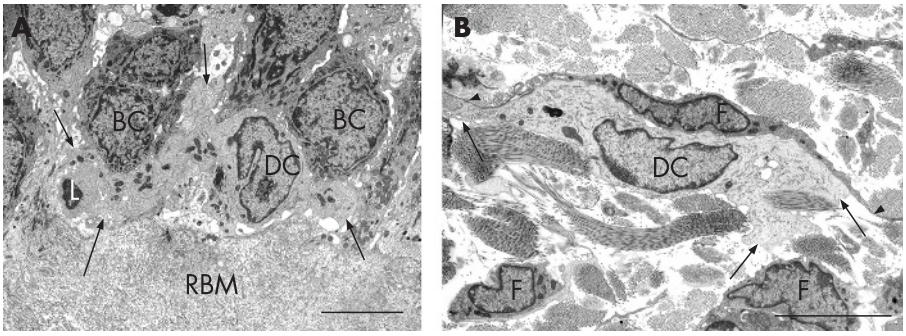
Skeletal muscle inflammation in COPD

As Sin and Reid point out in their accompanying editorial to the paper by Barreiro and colleagues, skeletal muscle weakness is a serious problem in patients with severe chronic obstructive pulmonary disease (COPD) and contributes to morbidity and mortality associated with the condition. Both systemic inflammation and oxidative stress have been proposed to play a role in the skeletal muscle dysfunction. In this month's *Thorax*, Barreiro and colleagues describe a study in which cytokines were measured by a microarray technique in quadriceps biopsies from COPD patients and controls. The study showed that among the cytokines measured, TNFα levels were actually lower than controls and correlated with quadriceps function (see figure). The authors conclude that there was no evidence of a pro-inflammatory environment in skeletal muscle, even though there was evidence of muscle weakness and oxidative stress.

In the editorial, Sin and Reid discuss some of the mechanisms contributing to skeletal muscle dysfunction in COPD and suggest that future research in this field will now need to address the topic with a new approach. ***See pages 95 and 100***



Mean (SD) values for tumour necrosis factor (TNF) α, as measured by ELISA, were significantly lower in the quadriceps of patients with severe COPD compared with control (CTL) muscles.



Transmission electron microscopy (TEM) micrographs showing dendritic cells (DCs) in the bronchial mucosa of a patient with stable asthma. (A) In the epithelium, in close proximity to the reticular basement membrane (RBM), with cytoplasmic projections/pseudopodia (arrows) extending among the basal cells (BC). An associated lymphocyte (L) is indicated. (B) In the subepithelium, the distinctive blunt pseudopodia (arrows) of the DC contrast with the adjacent fibroblast (F) which has thin bipolar cell extensions (arrowheads). The DCs exhibit a characteristic electron-lucent cytoplasm and nuclei with a distinctive narrow rim of heterochromatin. Scale bars = 5 mm.

Bronchial dendritic cells in COPD

COPD is a progressive inflammatory condition and increased CD8+ T lymphocytes have been shown to be related to reduced lung function. Bronchial dendritic cells are key antigen presenting cells and will affect T lymphocyte ratios in the lung, although there is little known about dendritic cells in COPD. In this issue, Rogers and colleagues describe an electron microscopic study of dendritic cells in COPD and the effect of smoking (see figure). The results show that dendritic cells are lower in current smokers, but in those COPD patients who quit smoking dendritic cells are similar to non-smoking controls. The reduction in dendritic cells will alter normal immunity and increase susceptibility to viral infections. ***See page 108***

Acute lung injury and IL-1 receptor blockade

Acute lung injury is a common cause of respiratory failure and has a high mortality. Mechanical ventilation is often essential but high tidal volumes can contribute to ventilator induced lung injury (VILI) which is associated with increased airspace and plasma levels of interleukin-1β (IL-1β). In this month's *Thorax*, Frank and colleagues study the mechanisms of VILI in an animal study and show that IL-1 promotes lung neutrophil recruitment and increases epithelial injury and permeability. They suggest that IL-1 receptor antagonists should be evaluated further for the treatment of acute lung injury. ***See page 147***

Epidemiology of mesothelioma

Although many countries have banned the industrial use of asbestos, the long latency for development of mesothelioma means that new cases will appear for some time. In this issue of *Thorax*, Mak and colleagues report a study from the Thames Cancer Registry Database and show that in men there was a 4% increase in mesothelioma incidence between 1985 and 2002. The highest incidence was along the River Thames and its estuary, reflecting areas of asbestos use, and incidence was five times higher in men than women. Men who were treated with surgery and chemotherapy had a higher 5-year survival. ***See page 160***