airwaves

Wisia Wedzicha, *Editor in Chief*

DENDRITIC CELLS IN THE TRACHEA

Dendritic cells (DC) play an important role in immune responses and also in the development of the immune system, being involved in antigen uptake, processing and presentation. However, there is little information on the distribution of DC in the lung, and particularly little on the nature of DC in early life. In this month's issue of *Thorax*, Tschernig and colleagues report a study of DC in human post mortem tracheal mucosa in situ using a set of recently available antibodies including DC-SIGN as a specific marker of DC. Correlations were observed between the expression of DC-SIGN and co-stimulatory and adhesion molecules. Relative distribution in the mucosal layers was already present early in life, but higher cell densities were found at the ventral tracheal site of patients older than 1 year than in infants in the first year of life. The authors conclude that these findings provide evidence for maturation of mucosal immune responses.

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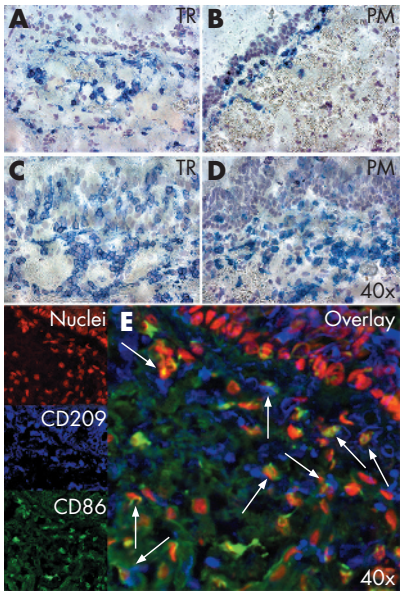

Immunohistochemistry and sequential overlay immunofluorescence. Comparison of cell densities for CD11a of infants (A, B) and adults (C, D) for the ventral trachea (TR) and dorsal trachea (posterior membranous wall, PM) at 40× magnification. (E) Sequential overlay immunofluorescent staining for CD209 (blue), CD86 (green), and nuclei (red) at 20× magnification

STATINS, PNEUMONIA AND DIABETES

Pneumonia is associated with much co-morbidity and mortality, particularly in patients with diabetes. Statin use has been associated with a reduction in severe sepsis and mortality in patients with pneumonia. In this month's *Thorax*, van de Garde and colleagues show that treatment with statins is associated with a significant reduction in the risk of developing pneumonia in diabetic patients. They found that this effect was consistent among disease subgroups such as cardiovascular and respiratory disease. This study thus contributes to the important evidence that, among their many beneficial effects, statins may also influence respiratory infections.

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EXACERBATION FREQUENCY IN CF

Patients with cystic fibrosis (CF) have chronic airway infection and are prone to exacerbations that contribute to the morbidity and healthcare cost of managing CF. Although there has been considerable research into factors associated with exacerbation in COPD patients, there is little information on this topic in CF. Block and colleagues describe a prospective study of adult CF patients infected with multidrug resistant bacteria with the objective of determining exacerbation risk factors. Patients with CF who have an increased exacerbation risk are younger and female, have a history of previous frequent exacerbations, worse lung function, and are more likely to use inhaled steroids. Theses results are important as they allow identification of higher risk CF patients who will need more intensive follow up and monitoring.

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25 YEARS FOLLOW UP FOR COPD

Chronic obstructive pulmonary disease (COPD) is predicted to become more common over the next 10–20 years, but knowledge of the condition and its natural history mainly comes from extrapolation from relatively short term studies. In this month's *Thorax*, Lokke and colleagues describe a 25 year follow up of COPD patients from the Copenhagen City Heart Study. They found the 25 year incidence of moderate and severe COPD to be 20.7% and 3.6%, respectively, with no sex differences. This absolute risk of at least 25% of developing COPD is larger than had been reported previously. In the accompanying editorial, Anthonisen explains that this figure of 25% is higher than the estimate of 15% of smokers developing COPD attributed to the work of Fletcher and colleagues in the 1970s. In the current study by Lokke, patients were older and Anthonisen makes the interesting suggestion that many (perhaps most) smokers are ''susceptible'' to COPD if they live long enough. He concludes that we may need to rethink the GOLD definition of COPD and the important susceptibility to the disease.

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SLEEP APNOEA AND TYPE 2 DIABETES

Obstructive sleep apnoea (OSA) is a common condition; it is associated with central obesity, cardiovascular risk, insulin resistance, impaired glucose tolerance, and type 2 diabetes. In this month's *Thorax*, West and colleagues show that OSA is also highly prevalent in a population of men with type 2 diabetes and much higher than in the general population, but most of the cases of OSA were undiagnosed. In the accompanying editorial, Wilding discusses these findings and emphasises that a diagnosis of OSA should be considered in patients with type 2 diabetes. He also suggests that CPAP therapy in diabetics with OSA may provide additional benefits above simple control of OSA.

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