alveolar cell traffic, that Porter highlights, may not be readily made in mice. In sharp contrast to humans, mice lack a bronchial circulation. The dominance of the pulmonary circulation is reflected in the work carried out by Corry et al. These authors repeatedly emphasise that their studies concern parenchymal leukocytes. When eggression is inhibited, leukocytes accumulate in pulmonary parenchymal tissues ‘causing’ severely impeded gas exchange. Oxygen is an effective remedy in these lethally affected mice. Corry et al. particularly underscore that ‘differences in smooth muscle or other contractile cell function cannot explain the increased mortality observed.’ Hence, Porter’s statement that death in this model is by ‘bronchoconstriction’ is puzzling. Then Porter discusses data suggesting that mouse lung injury evoked by intratracheal bleomycin is caused by transepithelial neutrophil egression. We are not equally convinced. For example, n-formyl-methionyl-leucyl-phenylalanine (fMLP) may not be used as a speciﬁc inducer of neutrophil egression, as quoted by Porter. nFLNP-like peptides are multipotent agents and avidly induce neutrophil toxicity as well. Nearly 130 years have passed since Julius Cohnheim held classic lectures on inflammation. He discussed the resolution of inflammatory inﬁltrates in mucosally lined organs, speciﬁcally noting the advantageous outward transport available to bronchi and lung alveoli. Cohnheim’s contemporary and perpetual authority, Henry Hyde Salter, observed cell-rich sputum production at resolution of severe asthma. Salter intriguingly analysed how the most peripheral components was performed. The analysis included cell recovery and differential count of macrophages, lymphocytes, neutrophils

Can cells other than Th17 lymphocytes be important sources of IL-17 in the lungs?

We read with interest the recent paper by Faccò et al. which showed that Th17 cells are present in blood, bronchoalveolar lavage (BAL) and lung tissue from people with sarcoidosis. The authors conclude that Th17 cells are involved in the pathogenesis of sarcoidosis as a multisystem disorder. Interestingly, the paper mentions expression of interleukin (IL)-17 protein by macrophages. Currently, a strong emphasis exists in the literature on the role of Th17 lymphocytes in the production of IL-17 in the lungs. However, Th17 cells are not the only source of IL-17 identiﬁed. IL-17 is also known to be produced by γδ and natural killer T cells. It has also been suggested that in human alcoholic liver disease, atherosclerosis and rodent models of lipo-polysaccharide-induced airway inﬂammation IL-17 can be localised to neutrophils. Furthermore, we have recently demonstrated that IL-17 protein expression is raised in the lower airway of people with advanced cystic ﬁbrosis lung disease. This IL-17 protein expression was immunolocalised to both neutrophils and mononuclear cells. It is known that granulocytes may be part of the inﬂammatory process in sarcoidosis. The BAL method used by Faccò et al. was referenced, via the online supplement, to an original paper that used a 200 ml lavage. A differential cell count seems to have been produced from a cytospin, but in the table listing differential BAL data the percentage of neutrophils was not stated. It would therefore be of interest if the authors could clarify the methodology used for the BAL and differential cell counts, whether any neutrophils were detected in BAL from people with sarcoidosis, and if so, did neutrophils demonstrate IL-17 immunolocalisation? Such data may support a paradigm indicating that IL-17 expression may involve cells in addition to Th17 lymphocytes in sarcoidosis. This may also be relevant to other lung pathologies where IL-17 is implicated.

Malcolm Brodlie,1,2 James Lordan,1,3 Christopher Ward1

1Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, UK; 2Department of Respiratory Paediatrics, Great North Children’s Hospital, Newcastle upon Tyne, UK; 3Cardiopulmonary Transplantation Unit, Freeman Hospital, Newcastle upon Tyne, UK

Correspondence to Dr Malcolm Brodlie, c/o Paediatric Respiratory Secretaries, Old Children’s Outpatients Department, Royal Victoria Infirmary, Newcastle upon Tyne NE1 4LP, UK; m.j.brodlie@ncl.ac.uk

Funding Medical Research Council, Cystic Fibrosis Trust.

Competing interests None.

Provenance and peer review Not commissioned; not externally peer reviewed.

Accepted 4 January 2011

Published Online First 15 March 2011


REFERENCES


11. Uller L, Erjefält J, Tato CM. Innate IL-17-producing cells are multipotent agents and avidly induce neutrophil toxicity as well. Interestingly, the paper mentions expression of interleukin (IL)-17 protein by macrophages. Currently, a strong emphasis exists in the literature on the role of Th17 lymphocytes in the production of IL-17 in the lungs. However, Th17 cells are not the only source of IL-17 identiﬁed. IL-17 is also known to be produced by γδ and natural killer T cells. It has also been suggested that in human alcoholic liver disease, atherosclerosis and rodent models of lipo-polysaccharide-induced airway inﬂammation IL-17 can be localised to neutrophils. Furthermore, we have recently demonstrated that IL-17 protein expression is raised in the lower airway of people with advanced cystic ﬁbrosis lung disease. This IL-17 protein expression was immunolocalised to both neutrophils and mononuclear cells. It is known that granulocytes may be part of the inﬂammatory process in sarcoidosis.

Authors’ response

We thank Dr Brodlie and coworkers for their letter and fully agree on the necessity to evaluate whether cells other than lymphocytes and macrophages are involved in IL-17 release in sarcoid lungs. The main manifestation of sarcoidosis is an accumulation of mononuclear inﬂammatory cells, mostly CD4+ T cells and monocytes/macrophages in involved organs, including the lungs. As speciﬁed in our ‘Materials and methods’ section, we evaluated cells obtained by filtering bronchoalveolar lavage (BAL) ﬂuid through gauze. A standard morphological and immunological analysis of BAL cellular components was performed. The analysis included cell recovery and differential count of macrophages, lymphocytes, neutrophils.