

CORRESPONDENCE

Should bronchoscopy be advocated to study airway remodelling and inflammation in adults with cystic fibrosis?

We read with interest the article by Regamey *et al* who reviewed the relationship of airway remodelling to inflammation in cystic fibrosis (CF).¹ The authors suggested that endobronchial biopsy studies are useful for studying airway remodelling in CF. Four studies were conducted in 91 children who underwent bronchoscopy for clinical reasons or annual routine surveillance. These studies confirmed that airway remodelling in CF appeared early in life and this is indeed of more than academic interest. However, while the authors have previously shown and claimed that biopsy procedures are safe in infants and small children, the ethics of the procedure in children have been discussed by others.²

We would like to raise concerns about the procedure in adults as well. From 1987 to 2011, Regamey *et al* found five independent studies in which bronchial biopsies were performed in only 25 adults with CF.¹ Although no major complications were reported in this small number of patients, several issues limit the use of endobronchial biopsies in adults with CF. Bronchoscopy is not the usual practice for microbiological assessment in adults with CF, in whom sputum examination is recommended.³ In a study comparing bronchoalveolar lavage (BAL) with induced sputum in 11 adults with CF having well-preserved lung function, the authors found no benefit of BAL for studying inflammatory cells and mediators.⁴ Because three subjects experienced prolonged fever and/or hypoxaemia, the authors concluded that BAL cannot be recommended in the research setting.⁴ As bronchoscopy is not part of routine practice in adults with CF, if performed, it should be done mostly as a research procedure in which risks and benefits are to be weighed carefully: CF is a progressive disease in which structural abnormalities increase with age.⁵ Enlarged bronchial vessels immediately adjacent to the airway epithelium are found in adults with CF (see figure 1). Rupture of these abnormal bronchial blood vessels into the airway lumens could be responsible for major haemoptysis, which occurs mostly in adults with CF. Although no major

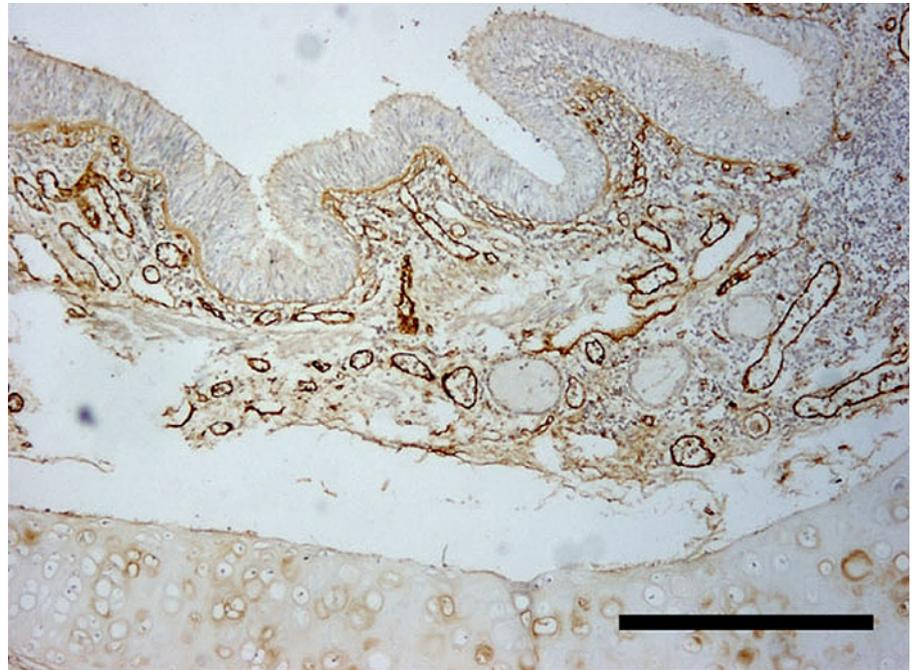


Figure 1 Representative photomicrograph demonstrating bronchial vascular remodelling in a cartilaginous airway obtained at transplantation from an adult with cystic fibrosis. A formalin-fixed paraffin embedded section was immunostained with an antibody to the endothelial marker von Willebrand factor. Numerous enlarged and tortuous airway blood vessels (brown colour) are found immediately adjacent to the airway epithelium. Bar=200 µm.

haemoptysis following bronchial biopsy has been reported, we suggest that the risk of biopsy-related bleeding is increased in adults with CF.

In conclusion, bronchoscopy with BAL or bronchial biopsies is an invasive procedure that is not recommended in clinical practice and may result in serious complications in adults with CF, especially in subjects with advanced lung disease. We suggest that a cautious approach is necessary when considering studies using BAL or bronchial biopsies in adults with CF.

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