Letter to the Editor in reply to 'Pulmonary vascular volumes and airways obstruction in SCD patients'

Dear Editor,

We thank Professor Greenough and Dr Lunt for their interest¹ in our manuscript,² and for the suggestion that changes in pulmonary vascular volumes may lead to airflow obstruction. In this group of sickle cell diseased (SCD) children and controls, we used carbon monoxide transfer (DL_{CO}) related to pulmonary blood flow (Q_{peff}) at rest and on exercise as a surrogate for pulmonary capillary blood volume.³ DL_{CO} corrected for haemoglobin and surface area was significantly higher in SCD at rest, but only by about 10%, while Q_{peff} was 15–20% higher. $DL_{CO}:Q_{peff}$, therefore, was significantly lower in SCD at rest and remained so at all exercise stages, thus implying lack of normal recruitment and distension of the pulmonary microcirculation, and suggesting that at rest at least, the microvasculature is unlikely to be

contributing to airflow obstruction, a result which contrasts with their findings.⁴ This discrepancy is unexplained. In the meantime, we agree that further mechanistic research is needed to try to understand why airflow obstruction develops and how it contributes to the pathophysiology of lung disease in these children.

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