remains improved since the addition of omalizumab. Both patients have also been on long-acting β_2 agonists and inhaled corticosteroids in standard doses throughout the time to control mild asthma symptoms (GINA I). In addition, they have required low dose prednisolone (5–10 mg) over the course of time to control blood eosinophilia, a hallmark of CSS exacerbation. We agree with Giavina-Bianchi *et al* that the long-term control of CSS requires immunosuppressant therapy and consider omalizumab as an effective add-on therapeutic agent. Because of the variability in the symptoms presented and the subspeciality of the referral centres who see these patients, a registry of patients with CSS is needed, based on clinical symptoms, regional background and therapeutic strategies. The underlying mechanisms as to how eosinophilia and cytokine signalling affects the course of the disease remains elusive and requires standardised treatment options and clarification of the molecular pathways to improve patient care.

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Ventilation-perfusion scans in children treated for empyema

Empyema is a frequent complication in children hospitalised with pneumonia. Parenchymal changes have been demonstrated on chest radiographs and chest CT scans in empyema,[1] and it is plausible that functional outcome may be affected. Studies that have used spirometry in children of school age to assess function following empyema have largely demonstrated normal lung function.[2] The ventilation-perfusion (V/Q) scan has been used occasionally in follow-up,[3] but evidence is lacking as to its value in this context.

We retrospectively reviewed V/Q scans of eight children originally recruited as part of a published study comparing video-assisted thoracoscopic drainage (VATS) with percutaneous chest drain insertion and urokinase for empyema.[4] Our aim was to assess whether empyema causes functional abnormalities following clinical resolution.

All subjects in the original study consented to have a V/Q scan at follow-up. Ethical approval was obtained. Of the total 60 children recruited (median age 3.7 years, range 0.5–15.8), only 8 (median age 7 years, range 1.1–14.4) agreed to have a V/Q scan. Seven of these had VATS and one had percutaneous drain insertion with urokinase.

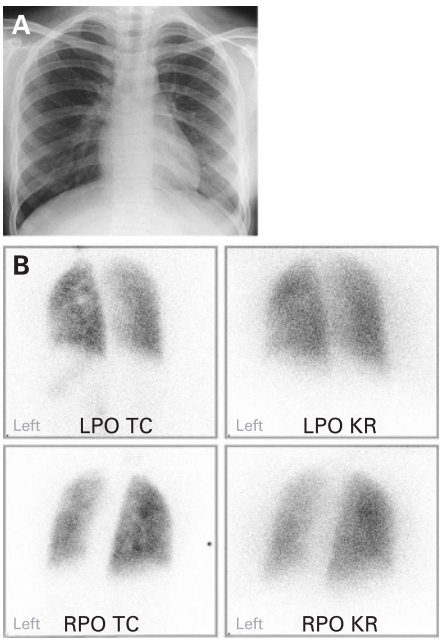

Figure 1 (A) Chest radiograph showing residual left pleural shadowing and blunting at the left costophrenic angle. (B) Ventilation/perfusion (V/Q) scan (posterior oblique views) showing borderline reduction in ventilation and perfusion of the left lung compatible with minimal left-sided pleural thickening seen on the chest radiograph. V/Q scan images were acquired with a single head gamma camera equipped with a parallel hole collimator. Tc^{99m}-Marco aggregates of albumin and 81m-krypton were used for perfusion and ventilation, respectively.

The median time from hospital discharge to V/Q scan and contemporaneous chest radiography was 6.5 months (range 4.5–13). All children had made a complete clinical recovery at assessment. All follow-up chest radiographs showed minor changes such as pleural shadowing. No major focal parenchymal defects were found on the V/Q scan in any of the children. Six of the V/Q scans showed normally distributed ventilation and perfusion. One scan, following a left empyema treated with VATS, showed global borderline reduction in the function of the left lung (fig 1B), which correlated well with the chest radiograph (fig 1A). Another V/Q scan showed a small focal abnormality in part of the right lower lobe on both ventilation and perfusion studies.

We found that V/Q scans in children with empyema at a median interval of 6.5 months following discharge did not demonstrate major focal defects.

The main limitation of our observation is the small number of children studied. All the children in our study were previously healthy and were reluctant to take part in a potentially unpleasant investigation (intravenous cannulation for injecting radioisotope) once the acute illness had resolved. The only paediatric study evaluating lung perfusion following empyema found that more than 50% of the children had diminished perfusion on the side of the empyema.[3] However, the time to the perfusion scan spanned >10 years following empyema, with no details of patients' ages, management, morbidity and interval infections.

The prognosis in children with empyema is excellent, with most making a complete clinical and radiological recovery.[5] British Thoracic Society guidelines recommend that children should be followed up after discharge until complete clinical and near normal radiological resolution.[5] However, there is a dearth of studies evaluating long-term functional outcome in children with empyema which needs to be addressed.

We conclude that medium-term lung function as assessed by V/Q scans in a small series of children with resolved empyema is normal or near normal. V/Q scans do not add additional information to functional assessment in a clinically well child following empyema.

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REFERENCES

1. **Jaffe A,** Calder AD, Owens CM, *et al*. Role of routine computed tomography in paediatric pleural empyema. *Thorax* 2008;**63**:897–902.
2. **Satish B,** Bunker M, Seddon P. Management of thoracic empyema in childhood: does the pleural thickening matter? *Arch Dis Child* 2003;**88**:918–21.
3. **Lange J,** Krolicki L, Chmielewska-Swewczyk D, *et al*. Role of pulmonary scintigraphy in children post parapneumonic effusion and empyema. *Eur Respir J* 2001;(Suppl 18):170S.
4. **Sonnappa S,** Cohen G, Owens CM, *et al*. Comparison of urokinase and video-assisted thoracoscopic surgery for treatment of childhood empyema. *Am J Respir Crit Care Med* 2006;**174**:221–7.
5. **Balfour-Lynn IM,** Abrahamson E, Cohen G, *et al*. BTS guidelines for the management of pleural infection in children. *Thorax* 2005;**60**(Suppl 1):i1–21.

Pleurodesis by talc poudrage under simple medical thoracoscopy: an international opinion

We read with interest the editorial by Davies *et al*[1] and were pleased to learn that talc is preferred by most respiratory physicians worldwide as an effective pleurodesing agent. Based on scientific data, the authors