



Abstract S67 Figure 1 Correlation between LCI and FEV₁ in children with non-CF, non-PCD bronchiectasis (A), CF (B) and PCD (C)

$r = -0.6$) but not in PCD (Figure). In non-CF bronchiectasis LCI was more significantly correlated with HRCT (extent and severity of bronchiectasis ($p = 0.002$, $r = 0.8$ and $p = 0.01$, $r = 0.7$ respectively), airway wall thickening ($p = 0.01$, $r = 0.7$) and air trapping ($p = 0.0006$, $r = 0.8$)) than was spirometry (only correlation with air trapping ($p = 0.03$, $r = -0.6$)). As shown previously, there were good correlations between HRCT and LCI in CF, but in PCD only air trapping correlated with LCI, and there were no correlations with FEV₁.

Conclusions LCI is a good marker of structural lung disease in children with non-CF bronchiectasis and is more sensitive to HRCT abnormalities than spirometry, similar to adults, and CF at all ages. This suggests the different relationships seen in PCD result from the effects of primary versus secondary ciliary dyskinesia rather than CFTR versus non-CFTR lung disease. LCI may be useful in monitoring children with non-CF bronchiectasis, but this needs to be confirmed longitudinally. The results illustrate the importance of not extrapolating between different airway diseases.

S68 THE HI-FLO STUDY: A PROSPECTIVE OPEN RANDOMISED CONTROLLED TRIAL OF HIGH FLOW NASAL CANNULA OXYGEN THERAPY AGAINST STANDARD CARE IN BRONCHIOLITIS

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Introduction High flow nasal cannula (HFNC) oxygen therapy is increasingly used as a form of respiratory support with limited evidence to support its use. Data from retrospective studies suggest that HFNC reduces rates of intubation and respiratory parameters in infants with bronchiolitis. It is well-tolerated, easy to use, and has very few adverse effects.

Objective To determine if HFNC therapy reduces work of breathing, oxygen requirement and time to resolution of respiratory distress more quickly than standard care in bronchiolitis.

Methods We conducted a prospective open randomised controlled trial to compare HFNC oxygen therapy with standard care for children with bronchiolitis in ward environments in a tertiary referral children's hospital over a two-year study period. Patients under 18 months of age with a clinical diagnosis of bronchiolitis were eligible. Subjects were randomised to standard supportive care with low flow oxygen (up to 2 litres/minute) or HFNC oxygen at 8 litres/minute. Fractional inspired concentration of oxygen was titrated to maintain saturations $>92\%$. A validated composite clinical score (modified Tal) was measured every 3 h.¹

Results 72 patients were recruited, 36 in each treatment arm. The mean age of subjects was 4 months, range 0.5–12.9 months. 42% were male, and all but two were born at term. 79% were RSV positive. 3 patients in the control group, and 4 in the intervention group required admission to intensive care. There was

no improvement in time to resolution of respiratory distress or oxygen requirement in patients receiving HFNC oxygen therapy. There was a trend towards lower clinical scores in the first 3 h following initiation of treatment in the intervention group. There were no adverse effects from HFNC therapy, and it was found to be safe in a ward environment.

Conclusion HFNC oxygen therapy may improve clinical parameters during the first hours of treatment, but it did not significantly reduce time to resolution of respiratory distress or oxygen requirement.

REFERENCE

- 1 McCallum G, et al. Severity scoring systems: are they internally valid, reliable and predictive of oxygen use in children with acute bronchiolitis? *Pediatric Pulmonology* 2013;48(8):797–803

Lung cancer: how are we doing and what's next?

S69 RISING STANDARDS OF CARE CONTINUE IN YEAR 9 OF THE NATIONAL LUNG CANCER AUDIT

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Introduction The National Lung Cancer Audit, now in its 9th year, is run jointly by the Royal College of Physicians and The Information Centre for Health and Social Care (HSCIC), and commissioned by the Healthcare Quality Improvement Partnership (HQIP). Over this period, the rich data of increasing quality has charted improving standards of care for patients, as well as persistent variation across organisations which in most cases is independent of case-mix.

Methods Although several other countries also submit data to the audit, this abstract presents provisional results for England only for patients first seen in 2013.

Results 30,508 patient records were submitted with more than 93% having performance status and the same number having disease stage recorded (see Table 1). Spirometry is available for 65% of Stage I-II/PS 0–1 NSCLC patients, allowing more detailed risk-adjustment to be carried out in future. The histological confirmation rate remains steady at 75%, and the proportion with non-subtyped NSCLC continues to fall. There has been a small but incremental rise in the resection rate in histologically-confirmed NSCLC which now stands at 23%, and in the proportions of patients with SCLC receiving chemotherapy (70%). Patient access to specialist nurses appears to have improved but demonstrates a continuing unmet need. The proportion having CT scan before bronchoscopy continues to rise (91%) as does the proportion having chemotherapy for locally advanced NSCLC with good PS (60%).

Variation in practice still exists – for example, the resection rate in Stage I-II NSCLC varies from 46% to 66% across the cancer networks, although the range is narrower than the previous year (35% to 62%).

Our final presentation will contain further analyses of survival across the audit lifespan.

Conclusions In contrast to the early years of the audit where standards of care appeared to improve rapidly and were partly related to improvements in data quality, recent years have shown only small incremental improvements. A reconfiguration of the