

Method All patients who were prescribed a nebulised mucolytic or antibiotic and had the delivery method changed to homecare in 2016 were included in the sample population. Prescriptions were excluded if the medication was a new prescription, medication was changed or stopped. MPR was calculated by standard methodology and capped at 100%. Data was tested for normality and appropriate statistical testing was used.

Results We screened 72 prescriptions of nebulised drugs delivered by homecare. Valid data was available for 50 prescriptions in 44 patients. Prescriptions had been valid for a median of 288 [185 – 345] days prior to delivery method change and 324 [237 – 381] days after. MPR significantly increased with homecare delivery method from a median of 67.9% [48.1–92.4] to 79.9% [60.7–98.0], $p=0.003$.

Conclusion Medicines possession ratio is influenced by the method of obtaining medication. Delivering medication directly to patients' homes or places of work rather than using standard collection increased MPR significantly. This suggests that making medication more readily and conveniently available may influence medication adherence. These patients need to be followed longitudinally to assess whether these changes impacted on clinical outcomes.

P114 LUNG ULTRASOUND SCORE CORRELATION WITH LUNG CLEARANCE INDEX

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Objective We aimed to evaluate the value of lung ultrasound (LUS) for monitoring the lung alterations in CF and correlation between LUS gravity score and the lung function.

Methods A prospective 4 years followed 67 CF patients monitored in our centre. Ultrasound was performed every 6 months, using a linear 8–12 MHz and a convex 3–5 MHz probe, with additional assessment in exacerbations. LUS scoring system was developed by the presence of interstitial syndrome, bronchiectasis, alveolar consolidation, pleural signs and confirmed by chest CT. Lung function was expressed by LCI, obtained by nitrogen multiple breath wash-out technique.

Results Patients were stratified according LUS score in normal (0–3)=41.79% of patients, mild (3–6) 12, moderate (6–10) and severe >10 (20.8% patients). 50.74% of patients performed reproducible LCI measurements, and the mean LCI value was 13.22 ± 6.2 . The most important positive correlation relationship was in patients with a LUS score more than 10, consistent with severe morphological lung alterations ($r=1.07$, $p=0.01$). Among patients with mild score, the correlation with LCI was weak ($r=0.22$), LUS having a low accuracy in detecting early lung changes, compared to LCI.

Conclusion Lung ultrasound score was useful tool and correlated better with the lung function expressed by LCI in patients with severe and moderate degree of structural changes in our CF patients. We suggest LUS can be used as a method of surveillance in advance CF lung disease and in exacerbations.

P115 UNWARRANTED USE OF NEPHROTOXIC ANTIBIOTICS IN CHILDREN WITH CYSTIC FIBROSIS

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Introduction As life expectancy of individuals with cystic fibrosis (CF) continues to increase, complications resulting from lifetime drug exposures and CF comorbidities are becoming more prevalent. An example of this is chronic kidney disease (CKD). Factors contributing to CKD in CF include age, CF related diabetes, aminoglycoside use, chronic respiratory infection and transplantation. The exact mechanism by which aminoglycosides damage the kidneys is not fully understood but the risk of CKD increases with cumulative use. To reduce this risk, it is recommended that aminoglycosides should only be used if there is no equally effective but less nephrotoxic alternative, such as when treating *Pseudomonas aeruginosa* (PA).

Method We developed an electronic questionnaire which used clinical vignettes to clarify which intravenous antibiotics would be used to treat an infective respiratory exacerbation in a child with CF who had never had PA, a child who was free of PA for >12 months and a child with chronic PA infection. The link to this questionnaire was emailed to the clinical lead at the 27 tertiary paediatric CF centres in the UK who was asked to complete it to reflect practice at their centre.

Results We obtained responses from 23/25 (93%) centres. 9/25 (36%) UK centres use Ceftazidime and Tobramycin as first line antibiotic regimen for the treatment of infective respiratory exacerbations in children who have never isolated PA. 15/25 (60%) use the same combination in those who are free of PA. Four stated they would consider change to a non-nephrotoxic antibiotic if the child remained free of PA for >2 years. All centres used Ceftazidime and Tobramycin to treat an infective exacerbation in a child with chronic PA infection.

Conclusions At least one third of UK tertiary paediatric CF centres use aminoglycosides to treat infective pulmonary exacerbations in children who have never grown PA and more than half use them in children who are free of PA infection. The unwarranted use of aminoglycosides in these patients puts them at increased risk of future renal impairment.

COPD: clinical investigation

P116 DEVELOPING A RISK PREDICTION TOOL FOR SPIROMETRICALLY DEFINED COPD IN ADULTS; EXPERIENCE FROM THE AGEING LUNGS IN EUROPEAN COHORTS PROJECT

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Background The EU H2020 funded Ageing Lungs in European Cohorts study (ALEC www.alecstudy.org) is a consortia of population-based birth and adult inception cohorts with