P243 OUTCOME MEASURES FOR AIRWAY CLEARANCE IN ADULTS WITH CYSTIC FIBROSIS (CF): A RANDOMISED CONTROLLED CROSSOVER TRIAL

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Introduction The best outcome measure (OM) for airway clearance (AC) in CF is unknown. Our National Institute for Health Research funded RCT compares standard OMs (sputum weight, FEV_1) to new OMs (electronic impedance tomography (EIT), lung clearance index (LCI), impulse oscillometry (IOS)) to determine the most effective measure of AC. Here we describe our ongoing AC trial, present the challenges related to recruitment, baseline characteristics and OM reproducibility.

Methods Subjects complete the OMs of LCI, IOS and FEV_1 then are randomised to either supervised AC intervention or rest for 30 minutes. LCI, IOS and FEV_1 are repeated straight afterwards. EIT, oxygen saturations and sputum are collected during the rest/AC period. At a subsequent visit the OMs are completed with the other intervention. Sequence allocation is blinded to the research team. Difference in change in the OMs pre- and post- AC/rest is the primary endpoint. Target sample is 96, the sample was calculated with 80% power and significance of 5% for each OM.

Results Recruitment to date (after 19 months): 241 patients pre-screened, 12 await first visit, 6 enrolled, 31 completed (66% of target to date (TTD)). Completed subjects' demographics: 19 male; median age 38yrs (IQR 19.5); 45% F508del/F508del; median FEV_1 70%pred (IQR 29.5). Scheduled visits are at 155% of TTD, but completed visits are at 76% of TTD. The high cancellation rate is primarily caused by patient illness. Median visit length 205 minutes (IQR 47). LCI has the longest duration; ICCs of pre-intervention OMs are good between visits (table).

Conclusion Completion of study visits is challenging, especially due to inclusion/exclusion criteria and requiring patient stability. Recruitment has improved recently with enhanced communication and strategic overbooking. The newer OMs of LCI, IOS and EIT are reproducible and feasible; however, the long duration of LCI may inhibit future use in this cohort. We believe this RCT is the first to evaluate these OMs for use in CF AC trials. The need to identify a more robust OM for AC effect remains paramount for future scientific research and for the application of personalized therapy not only for CF but for other supperative chest diseases.

Abstract P243 Table 1

Outcome Measure (n=31)	Pre-AC visit 1 median (IQR)	Pre-AC visit 2 median (IQR)	Intraclass Correlation Coefficient (ICC)	Median test time (IQR) (mins)
Forced Expiratory Volume (FEV_1) (litres)	2.37 (1.1)	2.35 (1.1)	0.99	5 (3)
Lung Clearance Index (LCI)*	14.9 (5.8)	16.3 (7.3)	0.92	50.5 (22)
R5-R20 from Impulse Oscillometry (IOS)	0.07 (0.1)	0.07 (0.1)	0.95	6 (3)
ΔEELI from Electronic Impedance Tomography (EIT)	12401 (2240182)	5104 (2149856)	0.94	4 (2)
*n = 30 due to 1 participant only having 1 acceptable LCI test at visit 1				

P244 ABSTRACT WITHDRAWN

P245 SERRATIA MARCESCENS (SM): A SIGNIFICANT PATHOGEN IN THE ADULT BRONCHIECTASIS MICROBIOME?

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Introduction and objectives SM is predominantly associated with hospital-acquired sepsis. It occurs naturally in soil and water and has a propensity for antimicrobial resistance. Its role in adult bronchiectasis, risk factors for colonisation and pathogenicity is unknown. We sought to identify characteristics associated with the isolation of this pathogen in sputum samples, antibiotic resistance and clinical outcomes.

Methods A longitudinal, retrospective analysis was conducted in a specialist adult bronchiectasis unit in the North East of England. Patients who had one or more sputum isolate for SM from January 2012 to December 2018, were identified from an Adult Bronchiectasis registry. Demographic, clinical and microbiological data were retrieved from the registry. Colonisation was defined as two positive sputum samples at least three months apart over a 24 month period, while community-acquired was characterised as no hospital admission within two years of the first isolate of SM.

Results A cohort of fifteen patients was identified (3.3% of patients included in the registry). The mean age was 70 years and 60% were males. Ten patients were colonised with SM (66.7%). Twelve patients (80%) were colonised with *Pseudomonas aeruginosa* prior to the isolation of SM. The mean Bronchiectasis Severity Index (BSI) for the cohort was 13.0 (SD=3.88) with no significant difference between the colonised group compared to patients with single isolate (13.1 versus 13.0, respectively; p=0.576). Three patients from the colonised group died during the study period. A total of 74 SM isolates were available for analysis. All the isolates were predictably resistant to cefuroxime but sensitive to carbapenem class antibiotics. Resistance to quinolones and temocillin was variable. SM was deemed community acquired in 13 (87%) of cases.

Conclusions SM remains an uncommon pathogen in adult bronchiectasis and is associated with a high BSI or advanced disease. *Pseudomonas aeruginosa* colonisation is usually established prior to its isolation. Antibiotic resistance remained stable and predictable in this cohort of patients. The acquisition of the pathogen in the community for most patients warrants further investigation using genotyping and whole genome sequencing.

P246 A SYSTEMATIC REVIEW OF SELF-MANAGEMENT SUPPORT INTERVENTIONS FOR ADULT BRONCHIECTASIS PATIENTS: A REALIST SYNTHESIS

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Background Bronchiectasis is a chronic respiratory condition characterised by abnormal and permanent dilation of the bronchi. It is associated with frequent exacerbations, reduced quality of life and significant burden on patients, families and healthcare services. Self-management interventions are advocated by national and international guidelines and benefits in the management of other airway diseases, such as COPD and asthma, are established. Evidence for the efficacy of self-management in bronchiectasis however remains dearth; a Cochrane systematic review found insufficient evidence to determine whether self-management 1interventions benefit people with bronchiectasis (Kelly et al, 2018).

Objectives An integrative systematic review was undertaken to include all research designs to describe the components of self-management support interventions and investigate what works, for whom and in what circumstances.

Methods A comprehensive database search was conducted on seven databases: MEDLINE Ovid, EMBASE Ovid, CINAHL, EBSCO, AMED, Web of Science Core Collection, and CENTRAL. Cluster searching was performed to supplement electronic database searches to maximise the identification of relevant evidence. Qualitative and quantitative evidence was considered if at least two of the following components of self-management support interventions were included: education, exercise, adherence to treatment, symptom monitoring, airway clearance techniques and action plans. Realist synthesis

Correction: *British Thoracic Society Winter Meeting 2019*

British Thoracic Society Winter Meeting 2019.*Thorax* 2019;74(Suppl 2):A1–A249. https://thorax.bmj.com/content/74/Suppl_2

Since initial publication of these abstracts there are some changes and additions required as follows:

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Abstract withdrawn — not presented at the meeting

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Abstract withdrawn — not presented at the meeting

10.1136/thorax-2019-BTSabstracts2019.433
Abstract withdrawn — not presented at the meeting

10.1136/thorax-2019-BTSabstracts2019.421
The incorrect version of the conclusion was published and the reference was omitted. See updates below:

Over a twelve-month period, one-third of referrals were diagnosed with IPF by the NILDS MDT consensus. One-third of patients with IPF were started on AFM. A disparity in the choice of AFM is evident with the majority of patients receiving Nintedanib for treatment of their IPF.

The majority of patients are above the therapeutic threshold at the time of MDT review. Monitoring FVC at regular follow-up is therefore vital to ensure treatment initiation at earliest opportunity.

Reference:

1. National Institute for Health and Care Excellence (2013). Idiopathic pulmonary fibrosis in adults: diagnosis and management. (NICE Clinical Guideline 163)

10.1136/thorax-2019-BTSabstracts2019.372
There was an amendment to the Results paragraph. See corrected version below:

Results: A total of 894 patients initiating FF/VI were matched to 3433 patients initiating BDP/FM. A higher proportion of patients persisted with FF/VI vs BDP/FM over 12 months (Kaplan-Meier analysis; **Figure**). The likelihood of discontinuing treatment within 12 months after initiation was 31% lower for FF/VI than BDP/FM (index year-adjusted, HR=0.69; 95% CI 0.60 to 0.80; p<0.001). Mean (SD) PDC was 78.2 (25.1) for FF/VI and 71.0 (26.0) for BDP/FM (p<0.0001), with median 89.2 vs 75.9 and significantly higher odds of achieving ≥50% and ≥80% PDC for FF/VI vs BDP/FM (747/893 [83.7%] vs 2600/3433 [75.7%]; OR=1.50; 95% CI 1.23 to 1.83; p<0.001 and 526/893 [58.9%] vs 1571/3433 [45.8%]; OR=1.57; 95% CI 1.35 to 1.83; p<0.001, respectively; per-protocol analyses). Annualised rescue use was numerically similar for FF/VI (4.6) vs BDP/FM (4.7).

10.1136/thorax-2019-BTSabstracts2019.373
There was an amendment to the Results paragraph. See corrected version below:

Results: A total of 937 patients initiating FF/VI were matched to 3232 patients initiating BUD/FM. A higher proportion of patients persisted with FF/VI vs BUD/FM over 12 months (Kaplan-Meier analysis; **Figure**). The likelihood of discontinuing treatment within 12 months after initiation was 35% lower for FF/VI than BUD/FM (index year-adjusted, HR=0.65; 95% CI 0.56 to 0.75; p<0.001). Mean (SD) PDC was 77.7 (25.3) for FF/VI and 72.4 (26.1) for BUD/FM (p<0.0001), with median 88.2 vs 77.7 and significantly higher odds of achieving ≥50% and ≥80% PDC for FF/VI vs BUD/FM (779/936 [83.2%] vs 2447/3232 [75.7%];

OR=1.35; 95% CI 1.09 to 1.67; p=0.006 and 544/936 [58.1%] vs 1562/3232 [48.3%]; OR=1.28; 95% CI 1.08 to 1.52; p=0.004, respectively; per-protocol analyses). Annualised rescue use was numerically similar for FF/VI (4.7) vs BUD/FM (4.2).

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