Abstract S143 Table 1

Monoclonal Antibody Therapy	ACQ-6 Pre Therapy	ACQ-6 Post Therapy	P Value (95% CI)	Exacerbation/ 12 months Pre Therapy	Exacerbation Rate/12 months Post Therapy	P Value (95% CI)	Maintenance Prednisolone Use (mg) Pre Therapy	Maintenance Prednisolone Use (mg) Post Therapy	P Value (95% CI)
All Monoclonal Antibodies	3.0 (1.49)	1.69 (1.81)	<0.0001 (-0.81, -1.40)	4.0 (4.0)	1.0 (1.0)	<0.0001 (-1.74, -3.09	5.0 (10.0)	3.0 (5.0)	0.0173 (-0.26, -3.6)
Anti-IgE	2.7 (1.14)	1.0 (2.2)	0.0004 (-0.55, -1.64)	2.0 (3.0)	1.0 (2.0)	*ns*	5.0 (6.25)	3.0 (5.5)	0.0662 (1.12, -5.07)
All Anti-IL5s	3.29 (1.57)	1.83 (1.5)	<0.0001 (-0.69, -1.43)	4.0 (3.0)	1.0 (2.75)	<0.0001 (-2.03, -3.71)	5.0 (10.0)	2.5 (5.0)	0.1641 (0.31, -2.78)
Benralizumab	2.59 (0.96)	1.99 (2.44)	0.1060 (0.28, -1.54)	5.0 (2.0)	2.0 (4.0)	0.0156 (-0.81, -5.18)	0.0 (25.0)	0.0 (25.0)	0.9999 (2.67, -2.13)
Mepolizumab	3.5 (1.89)	1.77 (0.41)	<0.0001 (-0.7, -1.66)	4.0 (3.75)	1.0 (2.5)	<0.0001 (-1.48, -3.13)	5.0 (10.0)	0.0 (5.0)	0.2714 (0.55, -2.90)

Data presented as median (interquartile range) and P vale (95% confidence interval)

on radiology and microbiological fungal burden, affects efficacy of monoclonal antibody therapy.

Conclusion This retrospective study highlights the potential effectiveness of monoclonal antibody therapy in some individuals with ABPA with a significant reduction in exacerbation frequency, symptoms and OCS use following monoclonal antibody therapy highlighting the importance of ongoing phase 3 clinical trials. Given a significant proportion of patients had no clinical response, further research is required to understand how ABPA endotypes can affect monoclonal antibody response.

S144 FAILURE TO REPAIR: AN IN VITRO MODEL OF ASPERGILLUS FUMIGATUS INFECTION IN AIRWAY EPITHELIAL INJURY

[1]HEC Gifford, [1]J Silva, [1]G Vere, [1]D Lim, [2]C Scotton, [1]PC Cook. *[1]MRC Center for Medical Mycology, Exeter, UK; [2]University of Exeter Medical School, Exeter, UK*

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Question: How does the ubiquitous environmental mould, *Aspergillus fumigatus*, impact bronchial epithelial cells (BECs) during injury? This study aimed to assess an in vitro model of host-pathogen interaction with the underlying hypothesis that *A.f.* infection disrupts lung epithelial repair in disease.

Background *A.f.* causes a broad spectrum of life-threatening invasive and allergic respiratory diseases in over 18 million individuals worldwide. The impact of *A.f.* infection during co-morbid acute and chronic respiratory diseases has been identified but the underlying mechanistic basis of this is unclear.

Methodology To mimic lung barrier damage, we employed a scratch assay on CM-DiI labelled 16HBE14o- cell (BEC) monolayers on 0.4μm pore transwells cultured in MEMα containing 10% FBS. Scratch closure in the presence and absence of transgenic GFP+ *A. fumigatus* was measured using timelapse fluorescence microscopy. Epithelial migration velocity was calculated using non-linear regression with the Levenberg-Marquardt algorithm. To determine epithelial uptake of spores, BEC were isolated at different time points of the culture and spore uptake was measured via flow cytometry.

Results While we found wound closure occurred within 12–18 hours (mean maximum closure 97.2%), this was prevented in the presence of live *A.f.* spores (MOI 10:1, mean maximum closure 54.9%). Spore inhibition of wound closure was associated with presence of mycelium growth. Furthermore, addition of spores to BEC cultures 24h prior to scratch wounding dramatically inhibited wound closure (mean maximum closure 3.9%). Despite this, epithelial velocity during wound repair between 3–7 hours post scratch was increased in the presence of spores (MOI 1:1000, 0.28 μm/h; 1:100, 0.47 μm/h; 1:10, 0.58 μm/h). Finally, flow cytometry analysis showed that spores were not internalised by epithelial cells (uptake 0.50–0.66 %), showing that the impact of *A.f.* epithelial cell wound closure and cell velocity was not due to epithelial cell uptake of spores.

Conclusions BEC wound repair accelerates and then fails during *A.f.* infection in a dose-dependent manner. Further research should explore the reproducibility of these preliminary findings and the mechanisms underlying wound repair failure. Potential candidates include *A.f.* secreted factors as mediators of altered BEC cytoskeletal function and epithelial migration.

Please refer to page A288 for declarations of interest related to this abstract.

S145 THE FUNGAL BURDEN IN NONTUBERCULOUS MYCOBACTERIAL PULMONARY DISEASE

[1,2]K Kumar, [1]A Nastase, [1]L Cuthbertson, [1,2]HC Ellis, [1,2]MR Loebinger, [1]MF Moffatt, [1]WOC Cookson. *[1]National Heart and Lung Institute, Imperial College London, London, UK; [2]Host Defence Unit, Department of Respiratory Medicine, Royal Brompton Hospital, Guy's and St Thomas' NHS Foundation Trust, London, UK*

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Introduction and Objectives Fungal lung infections may complicate the clinical trajectories of individuals with nontuberculous mycobacterial pulmonary disease (NTM-PD). It remains unclear whether NTM infection or therapies predispose to fungal disease. We hypothesised that there are differences in pulmonary fungal burden in NTM-PD according to NTM species, NTM treatment use and underlying structural lung diseases. We aimed to quantify this longitudinally in people with NTM-PD.