Results 192 prescriptions corresponding to 112 patients were identified. 62 of 112 (56%) were prescribed long-term azithromycin. Bronchiectasis (60%), COPD(19%), asthma (8%), ILD (7%), Bronchiolitis and others (6%) were the variety of diseases for which Azithromycin was prescribed. 28% had pseudomonas colonisation.

51(46%) patients were prescribed long-term azithromycin. Of these, 21 (25%) had been on azithromycin for less than 12 months.

Sixty eight (82%) patients on long-term azithromycin had had LFTs and 3(3.5%) had audiology testing in the preceding 12 months.21(25%)had documented ECGs with Qtc interval.

No patients tested had hearing loss and no documented QTc prolongation.

The other common side effect noticed was GI upset in 6 patients (5.6%).

The dosing was mostly 250mg three times a week 103(92%)

There was also 500mg three times a week in 20(18%)

H.influenzae (42%)Staphylococcus aureus (21%)Moraxella catarrhalis (11%)coliform sp (10%). We identified no new NTM in our Cohort.

Conclusion Although formal monitoring in this cohort was patchy, Significant documented adverse effects in this cohort were rare and optimal practice for long-term management of azithromycin use remains to be established.

P112 DEEPER PHENOTYPING OF NON CF BRONCHIECTASIS THROUGH SPUTUM DIFFERENTIAL COUNTS

[1]J Davison, [1]G Johnson, [1]K Jiwa, [1]A Cranson, [1]R Wake, [1]B Hood, [1]T Small, [2]J Birch, [2]A Fisher, [2]A De Soyza; *[1]The Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK; [2]Newcastle University, Newcastle upon Tyne, UK*

10.1136/thoraxjnl-2013-204457.262

Introduction and Objectives Non CF Bronchiectasis has diverse aetiologies. This includes idiopathic, systemic disease related and as a complication of asthma. Such diversity may be important in determining therapeutic strategies (personalised medicines) and may also be an important consideration in clinical trial design. This is increasingly relevant when neutrophil targeting or eosinophil targeted therapies are being developed. We hypothesised that patients could be phenotyped by sputum cytospins irrespective of suspected aetiology or disease severity.

Methods Patients underwent a standardised clinical phenotyping protocol including HRCT chest (Anwar *et al* 2013). Baseline therapy was recorded. Spontaneous sputa were collected in stable state and spirometry was undertaken according to guidelines. Sputum cell counts were calculated using standard methods with data expressed as medians and ranges.

Results Fifty three patients' data are reported. The M:F ratio was 1:1.4. The mean FEV1 predicted was 62%, mean FEV1/VC ratio was 64%. Forty three (83%) were on inhaled corticosteroids and 24.5% had a historical diagnosis of asthma and /or ABPA. The predominant cell in sputa was neutrophils, median 94 (range 23–100%), macrophages were the 2nd most prevalent cell type median 2.6 (range 0–75%). Eosinophils showed a skewed distribution with median of 0.2 with a range of 0–24.8%. Four patients had sputum eosinophilia >3%. Of these, only 2 had a history of asthma and / or ABPA being diagnosed. Despite historical diagnoses of asthma and / or ABPA in 13 patients the eosinophil percentage was not statistically different to "non asthmatics". (P = 0.59 Chi Sq test) This group included features of ABPA in 2 patients and significant atopy in another.

Conclusions Non CF bronchiectasis patients usually have sputum neutrophil dominance. Sputum eosinophilia is rare (<10% of patients); however such patients may need alternative therapeutic strategies. Excluding bronchiectasis patients with a history of asthma from trials targeting neutrophils seems unnecessary. The neutrophilic predominant profiles in asthmatic bronchiectasis patients suggest either asthma misdiagnosis or that neutrophil predominant asthmatics may be more susceptible to developing bronchiectasis. Longitudinal studies are needed to determine if the sputum cell profiles are static in stable patients. These data may help develop a more personalised medicine approach in bronchiectasis.

Abstract P112 Table 1. Differential sputa counts.

	NEUT	EOSIN	MACRO	LYMPH
Median	94.80	0.2	2.60	0.40
Max	100.00	24.80	75.20	7.00
Min	23.40	0.00	0.00	0.00

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P113 FREQUENT CO-DETECTION OF NON-TUBERCULOUS MYCOBACTERIA WITH OTHER MICROBES IN A UK CLINIC POPULATION: WHAT ARE THE IMPLICATIONS FOR TREATMENT?

T Mahungu, M Yousefzadeh, N Shah, J Reading, J Hurst, S Burns, J Goldring, I Abubakar, I Cropley, S Hopkins, M Lipman; *Royal Free London NHS Foundation Trust, London, United Kingdom*

10.1136/thoraxjnl-2013-204457.263

Introduction Non-Tuberculous Mycobacteria (NTM) are often isolated from patient samples, though their clinical relevance can be unclear. Treatment is not always effective and management decisions are usually based on repeat isolates with compatible clinical features. The presence of other micro-organisms, as well as the specific NTM itself, may be important. Here we report NTM and other microbe isolation frequency and their relationship to management decisions.

Methods All NTM samples isolated from liquid culture systems between 09/05/11 and 03/04/13 at our centre were identified using hospital pathology databases. Subject's negative mycobacterial cultures plus all positive relevant bacteria and virological isolates, as well as clinical history and progress were reviewed.

Results NTM were isolated on 257 occasions from 102 patients, who provided a total of 693 samples for mycobacterial culture. Adjusting for positive samples obtained within a month of each other, there were 170 isolates - 150 of which came from 90 patients' pulmonary samples. Common associated clinical conditions were non cystic fibrosis bronchiectasis (28, 31.1%), COPD (11, 12.2%), and HIV infection (6, 6.7%). The most frequent lung isolate was *Mycobacterium avium intracellulare* Complex, MAC, (47.8%), followed by *M. fortuitum*(14.4%), *M. gordonae* (10%), and *M. kansasii* (8.9%). Seven (7.8%) patients had multiple NTM species identified. 40 (44.4%) of the pulmonary patients also had bacteria or fungi isolated from lung samples. *Pseudomonas* sp. were present in 12 (13.3%), *Haemophilus influenzae* in 10 (11.1%), and *Staphylococcus aureus* in 6 (6.7%)

patients. To date, 68.9% have not received regular anti-microbial therapy. 19 (21.1%) are on long term anti-bacterials, and 7 (7.8%) are being treated with specific anti-NTM therapy (5 of these MAC). Over the two year period 483 pulmonary samples have been tested for mycobacteria; at a mean frequency of 5.4 samples per patient, with approximately one in three being NTM positive.

Conclusion Different microbes are frequently isolated on serial lung sampling from patients with NTM. Clinicians often utilise a treatment strategy that focuses on organisms other than NTM to control symptoms. The value of this approach requires longer term assessment, but highlights the importance of systematic, microbial surveillance cultures in pulmonary NTM management.

P114 NON-TUBERCULOUS MYCOBACTERIA–AN INCREASING PROBLEM WITH MANY COMPANIONS

[1]E Karampini, [2]C Groves, [2]HJ Milburn, [1]RD Barker, [2]RAM Breen, [1]FMR Perrin; *[1]King's College Hospital NHS Foundation Trust, London, UK; [2]Guy's and St Thomas' NHS Foundation Trust, London, UK*

10.1136/thoraxjnl-2013-204457.264

Introduction Infections secondary to non-tuberculous mycobacteria (NTM) are emerging with increasing frequency in various clinical settings. The determination of the clinical and prognostic significance of NTM isolates remains challenging and, in the absence of large trials, the evidence around the different therapeutic options is limited[1]. We aimed to identify the number of patients with single/multiple NTM isolates in our hospitals and evaluate their complexity with respect to coexistent microbiology.

Method A retrospective case review of patients in whom NTM were isolated over the last two years in two large teaching hospitals.

Results 195 patients were diagnosed with an NTM within the specified time period. Of those, 29 patients (14.8%) had cystic fibrosis (CF) and 11 patients (5.6%) were HIV-positive.

In the non-CF population, in 112 of 166 patients (67.5%) NTM were isolated in 1 sample, in 24 patients (14.5%) in 2 samples and in 30 patients (18%) in 3 or more samples. In 8 patients (4.8%) 2 or more different NTM species were isolated in the same samples. The NTM source was: sputum in 130 patients (78.3%), bronchial washings in 23 patients (13.8%) and other pulmonary/non-pulmonary sites in 13 patients (7.9%). Table 1 shows the NTM species isolated. 61 patients (36.7%) were co-infected with other organisms; most commonly with Pseudomonas aeruginosa, Staphylococcus aureus and Haemophilus influenzae. Co-infection with other organisms was not related to the NTM species, or to the number of NTM isolates. 114 patients (68.7%) were reviewed by a respiratory physician; this included all patients with 3 or more NTM isolates. 122 patients (73.5%) underwent CT imaging. 36 patients (21.7%) were commenced on treatment.

Abstract P114 Table 1. NTM species isolated and number of patients treated

Mycobacterium species	Number of patients growing NTM	Number of patients treated
M. avium complex (MAC)	36	10
M. fortuitum	34	2
M. kansasii	28	17
M. gordonae	22	1
M. xenopi	17	2
M. peregrinum	12	0
M. chelonae	7	1
M. abscessus	6	1
M. mucogenicum	4	0
M. malmoense	4	1
M. scrofulaceum	2	0
M. hassiacum	1	0
M. szulgai	1	1
M. smegmatis	1	0
M. marinum	1	0
M. neoaurum	1	0

Conclusion NTM infection is an increasing and often complex challenge in respiratory medicine that requires specialist input. Further studies are needed to clarify whether co-infection with other organisms is related to the nature (e.g. bronchiectasis, cavitation) or severity of respiratory disease.

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P115 EPIDEMIOLOGY, CHARACTERISTICS AND MANAGEMENT OF NON TUBERCULOUS MYCOBACTERIA IN A DEVON POPULATION

P Mitchelmore, C Sharp, R Unsworth, L Anning, T Burden, N Withers; *Royal Devon and Exeter Hospital, Exeter, United Kingdom*

10.1136/thoraxjnl-2013-204457.265

Introduction and Objectives Non-Tuberculous Mycobacteria (NTM) are ubiquitous species typically residing in soil and water. Their presentation as pathogens in disease is believed to be rising with the most common site of isolation being pulmonary. We have examined the epidemiology and characteristics of NTM presenting to our clinic over the period 2005–2012.

Method Our database, including all patients with at least one identification of an NTM during the period of 2005–2012, was reviewed. Data presented includes all incidences documented from 2009 onwards, with additional data from before 2009 used to gain further demographic information about the population. Those who were non-resident in the area were excluded.

The data was collected from Clinical Letters, Radiology and Pathology records, with data being reviewed by the lead investigator and one other in cases where information was uncertain.

Results Data was obtained from 74 new isolations, with a total of 11 different species of NTM identified. Patients presenting had a median age of 68 and a range of 8–88 years. 39(53%) were female and 46 (62%) were "one-off" isolates. M. Avium-intracellulare (MAI) was the most frequently reported isolate (42 cases, 57%) followed by M. Chelonae (8, 11%) and M. Xenopi (6, 8%). The majority (68, 92%) of isolates were pulmonary with 45(66%) of these found in standard sputum culture. Most frequently recorded co-morbidities were bronchiectasis (35 cases, 47%) and COPD (20, 27%). Of the total of 74 cases only 24 (32%) had received treatment by the time of our survey. The overall rates for eradication and subsequent relapse in those treated patients were 50% and 25% respectively for the total population and 57% and 38% for those with MAI. At completion of the study the mortality rate within 2 years of the first positive sample was 18%.