with intravenous antibiotic therapy. 81% of patients had a more than 10% increase in distance walked with nebulised gentamicin, 61% with oral therapy and 50% with intravenous therapy (figure 1).

**Conclusions** The ISWT is an objective, quick and inexpensive clinical endpoint that is reliable, valid and responsive for use in assessing patients with bronchiectasis.

## S46 IS PSEUDOMONAS INFECTION A NECESSARY PRECURSOR TO NTM INFECTION IN NON-CF BRONCHIECTASIS?

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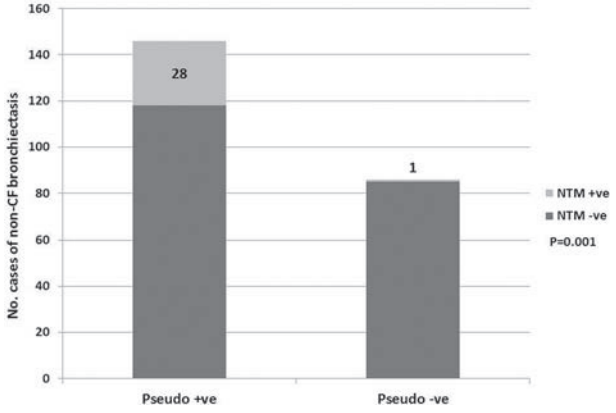
**Background** Non-tuberculous mycobacterial (NTM) infection is more prevalent in those with bronchiectasis than the general population. In addition, *Pseudomonas* is frequently isolated in more severe bronchiectatic disease. We interrogated our non-CF bronchiectasis database to identify association.

**Method** A retrospective analysis of 232 patients with non-CF bronchiectasis distinguished those both with and without NTM infection. Analysis included demographic, clinical, microbiologic, lung function and radiological data over a 10 year period.

**Results** NTM were cultured in 29 patients (12.5%), *M gordonae* being the most frequent (n=11, 37.9%) followed by *M avium-intracellulare* (n=9, 31.0%). *Pseudomonas* infection, current or previous, was identified in 146 (62.9%). Of those with NTM infection, a history of *Pseudomonas* infection was very strongly associated (96.6%) with only a single case of NTM isolated without *Pseudomonas* (3.4%; p=0.001) (figure 1). Also, concurrent proton pump inhibitor use in the NTM group showed a strong association (55.2% vs. 29.06%; p=0.03).

**Conclusion** A 10 year analysis of our non-CF bronchiectasis cohort indicates a very strong association between prior *Pseudomonas* infection and subsequent NTM isolation, with an NTM negative predictive value 98.8% in the absence of *Pseudomonas*. Whilst association is not causation, we postulate that *Pseudomonas* may lead to specific mucosal microbiome and structural changes. Moreover, this may be a necessary antecedent prior to observing the very high NTM prevalence rates found in this condition.




Abstract S46 Figure 1

## S47 HYPERTONIC SALINE INHALED THERAPY – RESULTS OF DRUG REACTION ASSESSMENTS

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**Introduction** Hypertonic saline (HTS) is commonly nebulised used to aid airway clearance in patients with chronic suppurative lung disease. In view of the risk of bronchoconstriction, prior to starting HTS, patients undergo a drug reaction assessment (DRA), as suggested by guidelines.[1]Patients that experience a>15% reduction in FEV1 post inhalation,+/-lack of tolerability, are deemed to have failed the DRA and would not usually be prescribed it for continued usage. We aimed to identify patient characteristics predicting a successful DRA and the likelihood of continuing HTS at 1 year post DRA.

**Methods** A retrospective analysis of all HTS DRAs between April 2011 and March 2016 at the Royal Brompton Hospital was undertaken. Spirometry, age, gender and underlying disease were recorded and the variables associated with DRA success and continued use at 1 year were assessed with logistic regression.

**Results** 523 patients underwent an HTS DRA with overall 89.5% passing the test. There were 504 tests with 7% HTS (90.2% passed) and 18 tests with 3.5% HTS (73.7% passed). A higher FEV1% Predicted Pre-Trial (PPT) was significantly associated with passing the DRA with an Odds Ratio (OR) of 0.97 (95%CI: 0.95–0.98, p-value<0.001); patients with an FEV% PPT >61% had a 0.05% chance of failing the DRA. Patients diagnosed with ABPA or COPD were significantly more likely to fail the DRA for HTS with ORs of 3.07 (95% CI:1.15–8.1, p-value=0.025) and 3.38 (95%CI:1.06–10.76, p-value-0.039), respectively. Amongst the 468 patients who passed the DRA, those with a higher FEV1% PPT were also more likely to remain on the HTS after 12 months, whilst, non-CF Bronchiectasis (OR: 0.44, p-value=0.020) and patients with "Other" lung diseases, including carcinoma and sarcoidosis, (OR:0.33, p-value=0.008) patients were significantly less likely to remain on it.

**Conclusions** The vast majority of patients passed the HTS DRA test and the failure rate in those with FEV1 PPT >61% was extremely low. We propose that clinical phenotypes could be used to risk assess patients who need HTS DRA tests before starting HTS.

### REFERENCE

1. Pasteur MC, Bilton D, Hill AT. British Thoracic Society guideline for non-CF bronchiectasis. *Thorax* 2010;65(1):i1–58. doi:10.1136/thx.2010.136119

# Diagnosing and treating pulmonary vascular disease

## S48 SEPTAL ANGLE ON MRI PREDICTS COMBINED PRE AND POST CAPILLARY PULMONARY HYPERTENSION

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