

NTM Lung Infections

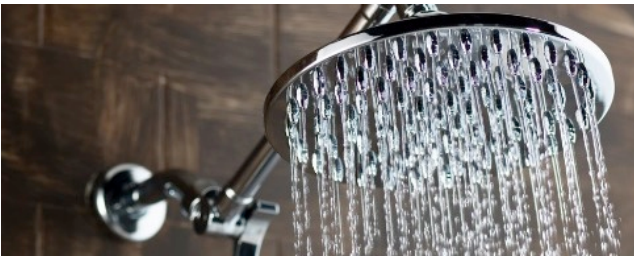
Nontuberculous Mycobacteria (NTM)

Where does it comes from?

- More than 150 species recognized
- Acquired by inhalation from environment
- Water thought to be the main

Who is at risk?

- Underlying lung disease and/or genetic predisposition
- Cystic Fibrosis
- COPD (chronic obstructive pulmonary disease)
- Immunosuppressive therapy



Cystic Fibrosis Phase 2a Results: Bacteriology



| | CF Infections | | CF M. abscessus |
|--------------------------|---------------|--------|-----------------|
| Bacteria | P. Aeruginosa | Other | NTM |
| N | 6 | 3 | 2 |
| Length of treatment | 9 days | 9 days | 21 days |
| % decrease from baseline | 62% | 60% | 99% |

Notes

- CF Infections data generated in 2014
- CF M. abscessus data generated in 2016
- % decrease from baseline of bacterial load calculated at end of treatment period
- No treatment related SAEs

- Confidence gained from CF Infections study
- NTM targeted due to positive previous data and ability to directly measure benefit to an NTM patient
- Given difficulty in treating M. abscessus, AIT opted for a longer treatment period
- Given our success in treating M. abscessus in CF patients, we believe we can treat M. abscessus regardless of co-morbidity

Compassionate treatment Case 1 & Case 2

Case 1 Background

- 19 year old female
- Rapid progressive changes in CT scan and deterioration in pulmonary functions tests
- Positive NTM – since July 2009

Case 2 Background

- 13 year old female
- Hospitalized for side effects of linezolid
- Positive NTM – since May 2014

Treatment regimen:

Long exposure of high dose of Nitric Oxide

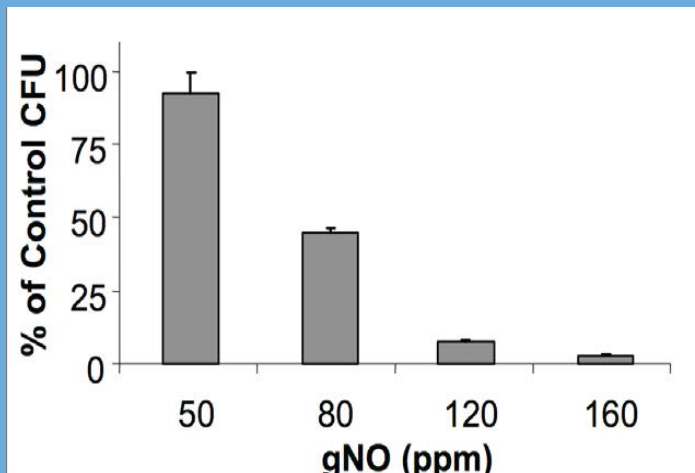
Significant changes in clinical symptoms and bacteriology**:

- 1 Change in lung function
- 2 Dramatic reduction in NTM colony forming units (CFU)
- 3 Increase in distance in the 6 minute walk test
- 4 Reduction in inflammation
- 5 Publication pending

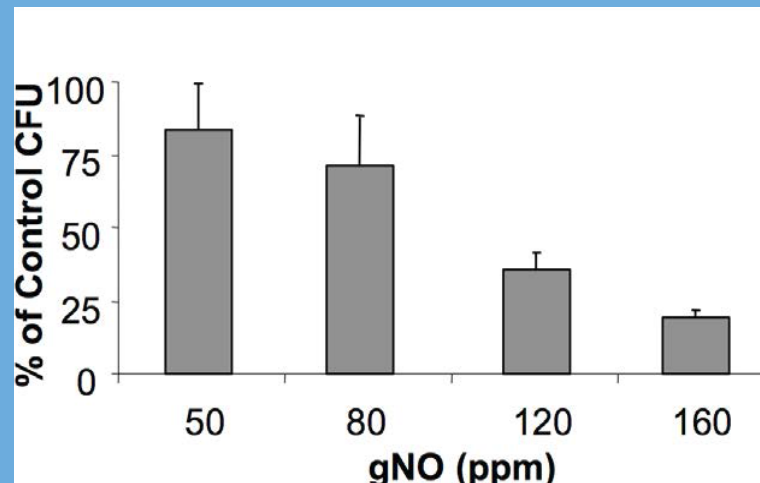
* Cases were treated at Rambam Medical center as a compassion treatment. AIT supplied the device and protocol.

** Some of the changes do not appear in both cases

Dose Response(In Vitro)*



S. aureus at 50, 80, 120 and 160 ppm



P. aeruginosa at 50, 80, 120 and 160 ppm

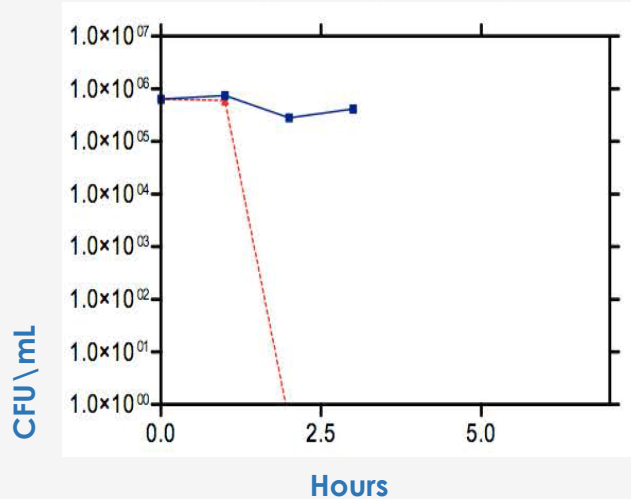
- 160 PPM - optimized dose for killing bacteria (measured in CFU)**
- Dose response experiments performed in two different types of bacterial strain
 - **Pseudomonas aeruginosa**: multidrug resistant (MDR) pathogen causing respiratory infection
 - **Staphylococcus aureus**: common cause of skin and respiratory infections

*~ 10 hr exposure

** Experiment was done by Pulmonox Technologies

Broad Spectrum Against Many Different Bacteria

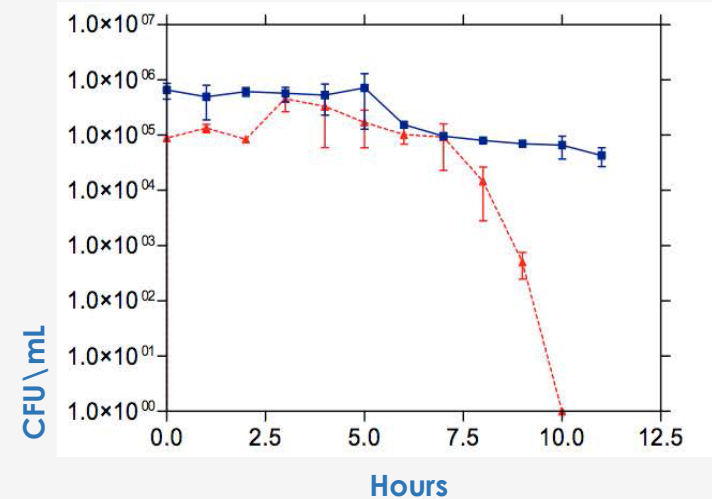
Chart 1: B Streptococcus



Additional Bacteria

1. *S. aureus*
2. *P. aeruginosa*
3. *S. marcescens*
4. *Klebsiella*
5. *S. maltophilia*
6. *E. aerogenes*
7. *A. baumannii*
8. MRSA
9. *C. albicans*
10. *E. coli*

Chart 2: Mycobacterium Smegmatis



- Nitric Oxide demonstrated efficacy against many different types of bacteria and viruses (in vitro)*
- Exposure time to eliminate bacteria ranged from 2hr (min) in chart 1 up to 10hr (max) in chart 2
- All of the additional bacteria mentioned below have elimination times between the min and max