from August 1st, 2016 to January 31st, 2017, the 6 months following the quality assurance intervention were included. Sputum samples were processed at the Texas Department of State and Health Services (DHS) Laboratory.

Results. A total of 1,853 sputum samples were processed; 1,288 from 2014 and 565 following the intervention. NTM decreased from 56 (4.3%) to 7 (1.2%) after the quality assurance intervention was instituted for a NTM decrease of 75.0%. M. gordonae decreased by 78.6%. No patients had evidence of NTM disease.

Conclusion. A breach in sputum collection protocols at TCD accounted for the increase in NTM isolation in 2014, half of which were M. gordonae. The reeducation of respiratory therapy staff and initiation of protocols were effective in sputum collection resulted in a significant reduction in the overall NTM rate. M. gordonae was isolated only three times following the intervention. At TCD, a location where tap water and bottled water contains NTM, drinking these prior to sputum collection possibly contributed to the cluster for NTM, especially M. gordonae. We recommend rinsing the mouth with sterile saline or water prior to sputum collection to decrease isolation of rarely pathogenic NTM.

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2276. Evaluation of Ceftriaxone-Ampicillin Activity in vitro and ex vivo Against Mycobacterium abscessus Complex

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Background. M. abscessus complex strains are increasingly identified from immunosuppressed hosts, including those patients with cystic fibrosis and those undergoing transplantation. However, the treatment of M. abscessus infections is complicated as a result of its intrinsic resistance to antituberculous agents and its acquisition of resistance to cephalosporine. Here, we used whole genome sequencing (WGS) coupled with in vitro (7H9) and ex vivo(THP-1 cells) susceptibility studies to explore the activity of ceftriaxone (CPT) and impenem (IMI), alone, or in combination with ampicillin (AVI). Methods. In vivo. In a clinical isolate 25 M. abscessus complex strains were compared by whole genome sequence analysis, and tested in vitro for susceptibility to CPT and IMI with or without AVI. Using a broth microdilution assay with 7H9 media, a range of drug concentrations from 0.25 to 128 µg/mL was evaluated with and without AVI. Ex vivo. A concentration of 4 µg/mL. On the basis of the MIC findings, we also analyzed the bactericidal activity of drug combinations against four clinical isolates (3 M. abscessus and 1 M. bolletti) in human THP-1 cells at an MOI of 1 organism to 10 cells. Bacteria were enumerated at 0, 24h, 48hr and 72 hours post infection. Results. WGS results distinguished the 25 M. abscessus complex into three clusters as M. massiliense, M. bolletii and M. abscessus. Additionally, up to 16 amino acid substitutions were identified in the AmpC (blaTEM) gene. CPT MICs ranged from 0.5 to 128 µg/mL, but the MIC range was dramatically lowered to <0.125–16 µg/mL in the presence of AVI. IMI activity, in vitro, alone or in combination with AVI ranged from 0.5 to 16 µg/mL. Activity of CPT with AVI in THP-1 cells correlates with the in vitroactivity against all 4 clinical isolates, while the activity of IMI with AVI in THP-1 cells was strain dependent. Increasing concentrations of AVI was active against one strain and had no effect on another strain. Conclusion. Our findings indicate that the in vitro activity of CPT in combination with AVI is predictive for ex vivo activity in human THP-1 cells and this combination may prove to be an effective regimen in treating infections caused by M. abscessus complex.

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2277. Clofazimine for Treatment of Mycobacterium abscessus Infections in Children

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Background. Mycobacterium abscessus infections are increasingly common and can be challenging to treat due to antimicrobial resistance. Clofazimine (CFZ), which is commonly used for treatment of leprosy, comes as a 50 mg capsule that must be swallowed whole. It has excellent in vitro activity against acid-fast bacilli (AFB) and 14 had a positive AFB culture (13 M. abscessus, 1 M. chelonae). There were 5 M. abscessus strains present in 16 children and granulomatosus lymphadenitis (requiring surgery in 10. Patients received a mean of 105.6 total days of CFZ therapy (range 84–164 days) with a mean weekly dose of 7.6 mg/kg and with dosing occurring a mean of 3 days a week. Every child was able to swallow the CFZ capsule. Minor skin discolorations were noted in 6 children, dry skin in 17, and gastrointestinal symptoms in 11. No child had a clinically significant change in corrected QT interval. All children showed evidence of jaw healing and resolution of lymphadenitis at the end of therapy, and 14 had resolved or improving lung nodules.

Conclusion. This is the largest and longest series of children receiving clofazimine for reasons other than leprosy. It is also the largest report of clofazimine use for extra pulmonary M. abscessus infections. Clofazimine appears to be safe in children and may be an effective part of a surgical and multi-drug regimen for M. abscessus infections.

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2278. A Randomized Controlled Trial of Anti-TNF a Bio-similar Adalimumab vs. Prednisolone in the Management of Leprosy Patients with New Type 1 Lepra Reaction

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Background. Leprosy Type 1 (T1R) reactions are immune-mediated events leading to nerve damage and preventative disability affecting hands, feet and eyes. TNF-a is the main inflammatory cytokine associated. Type 1 Reactions are treated with oral corticosteroids. There is little evidence on alternative treatments for patients who do not respond to steroids or experience steroid adverse effects. We report the results of a randomized controlled trial testing the efficacy and adverse effect profile of Anti-TNF a Bio-similar Adalimumab and prednisolone in comparison to prednisolone only in patients with new T1R. Outcomes were measured using a clinical severity score, recurrence rate, adverse events and quality of life.

Methods. Seventy-three patients with new T1R were randomized to receive Adalimumab or Prednisolone for 20 weeks. TNF-a levels were correlated before and after the intervention.

Results. Recovery rates in skin signs was similar in both groups (91% vs 88%). Improvements in nerve function both, new and old, sensory (66% vs 49%) and motor (75% vs 74%) loss were higher (but not significantly so) in the patients on Adalimumab. Recurrence rates of TIR (85%) were high in both groups, and recurrences occurred significantly earlier (8 weeks) in patients Adalimumab, who needed 10% more additional prednisolone as compared with Prednisolone alone. Both groups had a significant improvement in their quality of life after the study, measured by the Short form survey SF-36.

Conclusion. This is the first double-blind RCT assessing adalimumab, in the management of T1R. It could be a safe alternative second-line drug for patients with T1R who are not improving with prednisolone or are experiencing adverse events related to prednisolone. TNF-a levels could be an important diagnostic marker to diagnose and prognosticate cases of Type 1 Lepra reaction, which if not treated in time can lead to irreversible nerve damage.

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2279. Nontuberculous Mycobacteria Isolates at a Cancer Center: A 5-year Experience at H. Lee Moffitt Cancer Center in Tampa, Florida

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Background. Nontuberculous Mycobactariae (NTM) are widely distributed in natural environments and are known to cause human diseases distinct from tuberculo- mycobacteria. NTM caused diseases may lead to significant morbidity and mortality, particularly in immunocompromised hosts such as cancer patients. We present here a 5-year experience of NTM isolates at the Moffitt Cancer Center and research institute in Tampa, Florida.

Methods. We conducted a single center, retrospective study of patients with NTM from January 2011 to February 2016. Records were searched to identify patients with NTM. Specimens included bronchial lavage, swabs, blood, body fluids and biopsy or excised surgical specimens. Basic demographics of patients, clinical attributes, presentation and sites from which the NTM were isolated and associated neoplastic pathology were documented for each NTM type and compare.