Figure 1: Branching times for L2 and L4 were smaller than L1 and L3 indicating recent introduction into the region (p < 0.001 [KS test]).

Table 1: Demographic characteristics of study participants included in the study, by lineage.

| Lineage 1 | Lineage 2 | Lineage 3 | Lineage 4 | Total |
|-----------|-----------|-----------|-----------|-------|
| (n=162)   | (n=45)    | (n=273)   | (n=132)   | (n=512) |
| Gender: | | | | |
| Female    | 59 (36.4%) | 13 (28.9%) | 103 (37.7%) | 41 (31.5%) |
| Male      | 103 (63.6%) | 32 (71.1%) | 170 (62.3%) | 216 (68.5%) |
| Median Age (Range) |  | | | |
| 32 (18-74) | 29 (18-57) | 31 (18-70) | 30 (18-65) | 31 (18-74) |
| Snum: | | | | |
| Positive | 138 (85.2%) | 40 (88.9%) | 222 (81.3%) | 110 (83.3%) |
| Negative | 24 (14.8%) | 6 (11.1%) | 58 (18.7%) | 24 (16.7%) |
| HIV Positive | 6 (3.7%) | 1 (2.2%) | 17 (6.2%) | 14 (10.6%) |
| Known Diabetes Mellitus | 21 (13.9%) | 3 (6.7%) | 38 (13.9%) | 18 (13.9%) |
| | | | | 80 (13.1%) |

Table 1: Adverse events

| Adverse event | Clarithromycin-based regimen | Linezolid-based regimen |
|---------------|------------------------------|-------------------------|
| Any Grade     | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Any grade | Grade 1 | Grade 2 | Grade 3 | Grade 4 |
| Vomiting      | 7        | 8       | 3       | 1      | 7         | 7       | 5       | 2       | 1      |
| Sexual dysfunction | 6 | 3 | 3 | 2 | 6 | 6 | 4 | 2 | 1 |
| Nausea        | 4        | 3       | 1       | 0      | 7         | 7       | 5       | 2       | 1      |
| Diarrhea      | 2        | 2       | 2       | 1      | 3         | 3       | 2       | 2       | 1      |

1400. Pretomanid in the Treatment of Patients with Tuberculosis in the United States: the Bedaquiline, Pretomanid and Linezolid (BPaL) Accelerated Monitoring (BAM) Project

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Session: P-80. Tuberculosis and other Mycobacterial Infections

Conclusion. A clarithromycin-based regimen for NTM treatment was safe and well tolerated in our patient population. This combination provides a good alternative for patients requiring medications that are CYP substrates, or those who cannot tolerate azithromycin.

Disclosures. Matthew Cheng, MD, GenE Lifesciences (Advisor or Review Panel member); Kanvas Biosciences (Board Member, Shareholder); npexus biosciences (Advisor or Review Panel member)
(88%) had pulmonary TB disease only; two (12%) had both pulmonary and extrapulmonary disease. Of all patients, 16 had Mycobacterium tuberculosis isolated from sputum and 7 (44%) had cavity disease. The preliminary drug susceptibilities were 8 MDR patterns, 8 pre-XDR, and 1 unreported. Three patients received BPAI as their only treatment; six first received treatment for drug-susceptible TB, and eight received other regimens for MDR TB before BPAI. Eleven (65%) patients had ≥ 1 side effect reported during any TB treatment, including peripheral neuropathy (n=5), depression (n=4), vestibular dysfunction (n=3), and vision changes (n=3). Timing related to specific TB drug use was not reported. Sixteen (94%) patients received less than the approved initial dose of 1200 mg linezolid daily, and 15 (88%) patients underwent monitoring of linezolid exposure. All 16 patients with M. tuberculosis in initial sputa converted to negative culture results within 6 months of starting treatment. At 12 months after BPAI initiation, all patients had completed treatment, without TB recurrences or deaths reported.

Conclusion. In the early period after FDA approval, most U.S. patients received BPAI off-label with an initial linezolid dose lower than the approved 1200mg yet still achieved good outcomes. Most reported patients underwent some monitoring of linezolid exposure. Monitoring of BPAI use is important and should continue.

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1401. Infliximab for Immune Reconstitution Inflammatory Syndrome (IRIS) in Tuberculous Meningitis: A Treatment Paradox
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Background. Tumor necrosis factor (TNF)-α inhibitors are known for the reactivation of latent tuberculosis (TB). As a paradox, it has been reported to have a role in the treatment of immune reconstitution inflammatory syndrome (IRIS) from anti-TB therapy.

Methods. We report a case of paradoxical worsening of central nervous system TB after initiation of anti-TB medications, which was treated successfully with infliximab (TNF-α inhibitor).

Results. A 34-year-old man from Nepal with a history of untreated latent TB presented with complaints of occipital headache, slurred speech, and witnessed seizure. His physical exam was consistent with hyperreflexia. MRI of the brain revealed multiple small contrast-enhancing lesions in cerebral hemispheres. CT Chest showed bilateral centrilobular nodules suggestive of miliary TB. Cerebrospinal fluid (CSF) analysis showed pleocytosis, high protein, and low glucose. He was started on isoniazid, rifampin, ethambutol, and pyrazinamide along with high-dose dexamethasone for TB meningitis.

Conclusions. TB after initiation of anti-TB medications, which was treated successfully with infliximab is a rare paradox and needs to be reported.

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1402. NTM Infections: A Rising Global Health Problem/Clinical Characteristics and Outcomes of Patients with Non-Tuberculous Mycobacterial Infections at Two Tertiary Academic Medical Centers
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Session: P-80. Tuberculosis and other Mycobacterial Infections

Background. Non-Tuberculous Mycobacteria (NTM) cause infections in immunocompetent as well as immunocompromised individuals affecting pulmonary and extra pulmonary sites. These pathogens are widely distributed globally and recent reports have shown their rise in many developed countries. Our study aimed to assess the disease magnitude, describe patient characteristics and risk factors, assess diagnostic and therapeutic measures and review outcomes furthering our understanding of the overall disease process.

Methods. We conducted a retrospective, multicenter review of patients with positive NTM cultures treated at University Hospital System and South Texas Veterans Health Care System (STVHCS) from 2011 to 2018. Infections were classified as pulmonary or extrapulmonary, and we recorded demographics, microbiological data, treatment regimens, duration, complications, follow-up and mortality. All categorical variables were described using percentages and compared between groups using the chi-square test.

Results. A total of 176 patients were included for analysis, of which 111 (63.1%) met criteria for NTM disease (2020 ATS/IDSA). The most common cultured mycobacterium was M. Avium Complex (MAC), M. abscessus-chelonae was more commonly associated with clinical disease and isolated from an extra pulmonary site whereas M. simiae complex was more commonly associated with pulmonary disease. Of all patients, 16 had pulmonary or extrapulmonary, and we recorded demographics, microbiological data, treatment regimens, duration, complications, follow-up and mortality. All categorical variables were described using percentages and compared between groups using the chi-square test.

Table 1. Characteristics of patients overall (all culture positive patients) and by clinical infection

| Characteristic | Culture Positive (n=176) | Clinical Infection (n=111) | No Clinical Infection (n=65) | P-value |
|---------------|--------------------------|----------------------------|-----------------------------|---------|
| Age (years), median (IQR) | 66 (56-74) | 67 (54-76) | 62 (53-71) | 0.0003 |
| Male sex, % (n) | 109 (62.7%) | 71 (64%) | 38 (58.5%) | 0.2623 |
| Charlson Comorbidity score (IQR) | 2 (1-3) | 2 (1-3) | 2 (1-3) | 0.0001 |
| Pulmonary source, % (n) | 137 (78.1%) | 97 (87%) | 40 (61.5%) | <0.0001 |
| Organism, % (n) | | | | |
| M. avium complex | 54 (30.7%) | 30 (27.1%) | 24 (36.9%) | 0.1623 |
| M. abscessus-chelonae complex | 44 (25.5%) | 27 (24.3%) | 17 (26.2%) | 0.6975 |
| M. simiae complex | 29 (16.6%) | 16 (14.4%) | 13 (20.0%) | 0.0001 |
| M. fortuitum | 11 (6.3%) | 8 (7.2%) | 3 (4.6%) | 0.1961 |
| M. kansasii | 8 (4.6%) | 5 (4.5%) | 3 (4.6%) | 0.2623 |
| M. morganii | 6 (3.5%) | 3 (2.7%) | 3 (4.6%) | 0.2623 |
| M. scrofulaceum | 5 (2.9%) | 4 (3.6%) | 1 (1.5%) | 0.5935 |
| M. szulgai | 5 (2.9%) | 4 (3.6%) | 1 (1.5%) | 0.5935 |
| M. xenopi | 3 (1.7%) | 2 (1.8%) | 1 (1.5%) | 0.7512 |
| Other | 53 (30.7%) | 39 (35.2%) | 14 (21.5%) | <0.0001 |
| Anaerobic treatment, % (n) | | | | |
| Initial treatment, n (%) | | | | |
| Macrolide/levofloxacin/macrolone | 88 (50.5%) | 64 (57.7%) | 24 (36.9%) | <0.0001 |
| Amikacin | 50 (28.6%) | 32 (28.9%) | 18 (27.7%) | 0.6975 |
| Fluoroquinolone | 50 (28.6%) | 33 (29.8%) | 17 (26.2%) | 0.6975 |
| Cotrimoxazole | 20 (11.5%) | 14 (12.7%) | 6 (9.2%) | 0.2623 |
| Gentamicin | 18 (10.3%) | 13 (11.8%) | 5 (7.7%) | 0.2623 |
| Imipenem | 13 (7.5%) | 9 (8.1%) | 4 (6.2%) | 0.4945 |
| linezolid | 5 (2.9%) | 4 (3.6%) | 1 (1.5%) | 0.5935 |
| Trimethoprim-sulfamethoxazole | 20 (11.5%) | 16 (14.4%) | 4 (6.2%) | <0.0001 |
| Treatment duration, median (IQR) | 15 (10-21) | 15 (10-20) | 5 (3.75-11) | 0.7470 |

*Value indicates comparison between clinical infection versus no clinical infection

Table 2. Health outcomes of treated patients with clinical infection

| Characteristic | Overall (n=89) |
|---------------|---------------|
| Cure, n (%) | 42 (47.2%) |
| Treatment failure, n (%) | 15 (16.9%) |
| Relapse/recurrence, n (%) | 8 (9.0%) |
| All-cause mortality, n (%) | 24 (27.0%) |
| NTM-related mortality, n (%) | 13 (14.6%) |
| Adverse effects, n (%) | 42 (47.2%) |
| Treatment halted, n (%) | 27 (30.3%) |
| Treatment duration, median (IGR) | 10 (2.17) |

Treatment by bug

MRI Brain (axial T2/flair sequence) shows hyperintensities in multiple locations including the involvement of the left optic nerve and the left occipital region.

Conclusion. Exacerbation of pre-existing clinical symptoms, formation of new lesions, or cavitation of prior pulmonary infiltrates is known as tuberculosis IRIS or paradoxical reaction. Despite the clinical and radiological exacerbation, mycobacterial cultures usually stay negative. Continuation of anti-TB medications and high-dose corticosteroids are the backbone of treatment but in refractory cases, immune modulation is needed with anti-TNF-α agents.

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