Introduction:
• Mycobacterium Tuberculosis (TB) remains an important cause of morbidity and mortality in Madagascar.

Incidence of TB in Madagascar in 2015 [IP]:

<table>
<thead>
<tr>
<th>General Incidence</th>
<th>57,000</th>
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<tbody>
<tr>
<td>Pediatric (&lt;14 years old) Incidence</td>
<td>11,000</td>
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<tr>
<td>Percentage bacteriologically confirmed</td>
<td>89%</td>
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• However, bacteriologic confirmation of TB in children is especially difficult.

• Therefore, the incidence of TB in the pediatric population in Madagascar, and other developing countries, is considered under-estimated.

• We report a case of a 4 year old male that illustrates the challenges in diagnosis and management of TB in Madagascar.

Case Report:
• A 4 year old male presented to a hospital in northern Madagascar with five months of chronic, non-productive cough and cachexia. Past medical and family history was unremarkable, with no sick contacts.

Exam: Cachectic with severe respiratory distress and diffuse rhonchi bilaterally

Hemoglobin: 7.0
Chest XR: Diffuse Bilateral Infiltrates

• Due to concern for TB, an acid-fast bacilli (AFB) smear and culture was attempted via early morning nasogastric aspirate and induced sputum. Both were negative.

• Due to concern for Pneumocystis pneumonia, trimethoprim/sulfamethoxazole was ordered, but administration was delayed for 36 hours due to resource constraints.

• Presumptive treatment of TB is not allowed due to local guidelines requiring a positive AFB.

• The patient’s respiratory status declined and the patient expired before a positive AFB culture was obtained.

Discussion:
• The pediatric population with suspected pulmonary TB is challenging to manage in Madagascar.

• A positive AFB culture is required to initiate treatment for TB; however obtaining a positive AFB in children is difficult.

• Diagnostic accuracy hinders initiation of treatment.

• Treatment is government funded, but documented positive AFB is required. Otherwise, parents are asked to cover the expense of the medications, which is rarely a feasible option [Ave annual income = $125/y].

• Finally, there is little public health effort to trace TB transmission in rural communities.

• Roughly 14% of the cases of TB in Madagascar are in patients less than 14; however, given the current means of diagnosis and reporting, this is likely an underestimate.

• This case demonstrates the obstacles in diagnosing and treating TB in the pediatric population in Madagascar as well as other developing countries.

References: