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Impaired DLCO Correlates With Reduced Total Lung Glycolysis After Tuberculosis Treatment

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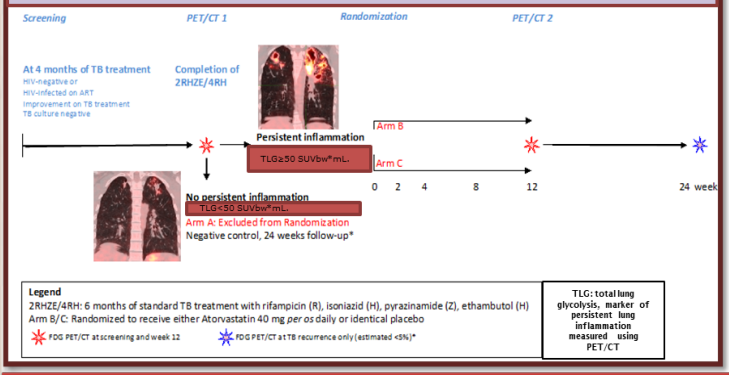
- High mortality and morbidity after successful completion of tuberculosis (TB) in high TB-HIV settings persist.
- Healthy TB survival is impaired by chronic respiratory diseases (CRD).
- CRDs are neglected diseases (NTDs) in countries with variables resources.

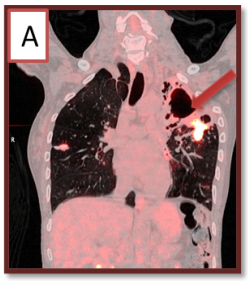
Methods

StatinTB trial: (ClinicalTrials.gov Identifier: NCT04147286): ongoing proof-of-concept phase IIB, double-blind, randomized, placebo-controlled trial to evaluate the safety and efficacy of 40 mg atorvastatin to reduce persistent lung inflammation after successful TB treatment completion.



Objective

To assess predictors associated with persistent lung inflammation among the first included participants.



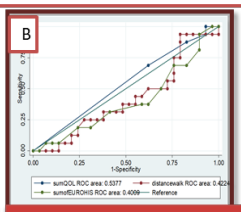
Results

PET/ CT/ lung function/quality of life (QoL) EUROHIS questionnaire/ 6 minutes distance walk test in 45 participants (30 males):

1. Mean ± SD age: 35.4 ±12.6 years
2. Smokers: 26 (57.8%)
3. HIV positive: 8 (17.8%)
4. Previous TB: 9 (20%)

1. Persistent inflammation (Fig A): detected among 16 (35.6%) participants with a mean of TLG 245 ±194 SUVbw*mL.
2. Fibro-cystic diseases and reduced DLCO: common among participants with persistent inflammation.
3. Reduced FEV1, FVC and DLCO: common in participants with HIV/TB co-infection compared to participants with TB alone.

1. Poor performance of QoL to predict persistent inflammation (Fig B)
2. Adjustment models; DLCO is inversely associated with TLG:
   - ✓ Model unadjusted for HIV status: aOR: 95%CI: 0.22, 0.06-0.82, p=0.024
   - ✓ Model adjusted for HIV status: aOR: 95%CI: 0.26, 0.08-0.90, p=0.031



Conclusion

1. Impaired DLCO is associated with persistent lung inflammation among young adults with excellent adherence to a 24-weeks treatment regimen for drug-sensitive TB.
2. Therapeutic strategy to reduce persistent lung inflammation in Post TB treatment requires further evaluation as it is likely to improve pulmonary function.

Acknowledgement

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