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Paper Poster Session
Pathology, diversity and clinical outcome in TB

Tuberculosis and nontuberculous mycobacteria among HIV-infected individuals in Ghana

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Background: In Sub-Saharan Africa, tuberculosis (TB) is a major contributor to morbidity and mortality among patients infected with HIV. The distribution and clinical relevance of nontuberculous mycobacteria (NTM) is uncertain. The aim of this study was to assess the prevalence and clinical importance of TB and isolation of NTM among HIV-infected individuals in Ghana.

Material/methods: We prospectively enrolled HIV-positive adults from a large Teaching Hospital in Ghana before antiretroviral therapy was started and followed participants for a minimum of six months. Sputum samples were collected at baseline and examined for mycobacteria with smear microscopy, solid and liquid culture, and Xpert MTB/RIF assay. NTM species was further identified with the GenoType Mycobacterium CM/AS or sequence analysis of 16S rRNA gene.

Results: Of 473 participants, 60 (12.7%) had pulmonary TB, and 38 (8.0%) had positive cultures for NTM. The dominant NTM species identified was M. avium complex, cultured in 9/38 (23.7%) participants. Participants with NTM positive cultures were more likely to have CD4 cell count< 100 cells/μL (aOR 2.37; 95%CI: 1.10-5.14), BMI<18.5 (aOR 2.51; 95%CI:1.15-5.51) and fever ≥ 2 weeks (aOR 2.76; 95%CI: 1.27-6.03) compared to participants with no mycobacteria and excluding NTM/TB co-infected patients. At six months of follow-up 76/473 (16.1%) participants had died and 80/473 (16.9%) were lost to follow. Mortality among patients with TB was 20/60 (33.3%) compared to 47/375 (12.5%) among participants with no mycobacteria (aOR 3.22; 95%CI: 1.46-7.09). Mortality among participants with NTM isolation was 9/38 (23.7%). In an adjusted analysis NTM isolation was not associated with increased mortality when compared to having no mycobacteria (aOR 1.04; 95%CI: 0.37-2.91).

Conclusions: In conclusion, mycobacterial screening revealed a high burden of undiagnosed pulmonary TB and increased mortality among TB/HIV co-infected individuals in Ghana. While NTM

isolation was associated with signs of poor clinical status, NTM isolation was not independently associated with increased mortality.