Association of Aflatoxin Levels with Viral Load, Liver Function, Immune Impairments, Vitamins A and E Levels and Tuberculosis Infection in HIV Positive Ghanaians

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Abstract

Aflatoxicosis remains a major environmental health concern in sub-Saharan Africa. Chronic aflatoxicosis has been shown to increase with malnutrition, food contamination, poverty, and climate change. Thus, aflatoxicosis can be an important co-factor contributing to the health and disease outcomes. In this study, we examined the association between aflatoxin exposure and liver function, immune function, and tuberculosis infection in HIV positive Ghanaians. We conducted a cross-sectional study among 150 HIV positive individuals selected by stratified random sampling in urban and rural settings in Ghana. We measured aflatoxin B1 (AF-B1) levels in urine, liver function, immune parameters, and tuberculosis infection status. We assessed the association of aflatoxin exposure with liver function, immune function, and tuberculosis infection, using multivariate regression analysis. The results showed a significant association between aflatoxin exposure and liver function, immune function, and tuberculosis infection. The findings highlight the importance of aflatoxin exposure as a potential risk factor for liver function, immune function, and tuberculosis infection in HIV positive Ghanaians. Further studies are needed to explore the mechanisms underlying these associations and to develop effective intervention strategies to mitigate the impact of aflatoxin exposure on health and disease outcomes.