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Track B - Health Systems and Delivery of ART I

MOPE0048 - Discordant responses to antiretroviral treatment: prevalence, risk factors and associated mortality in Rwanda

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Background: Discordant (opposite virological and immunological) responses to antiretroviral treatment (ART) remain poorly understood in low-income countries. We aimed to identify the prevalence of and risk factors for discordant responses and the associated mortality.

Methods: Analysis of the outcomes of 962 adults within the ART program in two urban government health centers in Rwanda, where approximately 90% started a regimen containing stavudine/lamuvudine/nevirapine. Viral load measurement was performed routinely after 1 year of treatment. Virological failure (VL-) was defined as a viral load >1000 copies/ml. Immunological success (CD4+) was defined as an increase in CD4 count >50 cells/ul from baseline. Multivariate analysis was done to identify risk factors for discordant responses and to assess the association of discordant responses with mortality, with complete responders as reference group.

Results: In total, 691 (71.8%) subjects were complete responders, and 30 (3.1%) complete non-responders. Discordant responses were seen in 243 (25.1%) patients, with 188 (19.6%) virological-only responses (VL+/CD4-) and 53 (5.5%) immunological-only responses (VL-/CD4+). Patients with a virological-only response were significantly more likely to be > 40 years old, less likely to be of female sex and to be on ART for > 1.5 years. A baseline CD4 count >50 cells/μL and the development of tuberculosis while on ART were identified as additional risk factors. An immunological-only response was associated with a baseline body weight of >65 kg and with baseline CD4 counts <50 cells/μL. Virological-only responders had a higher short-term mortality (hazard ratio (HR) 7.16; P=0.006), no significant difference was observed for immunological-only responders (HR: 3.65; P=0.266).

Conclusions: This study confirms discordant responses to occur frequently in patients on ART in Rwanda, with different risk factors according to the type of discordance. Patients with virological-only responses are a population at risk and might require closer medical follow-up.

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