Abstract

Introduction: In Tanzania, the follow-up on antiretroviral therapy (ART) response is based on clinical outcomes. We investigated virological response and ARV resistance mutations in relation to clinical response in ARV-treated patients.

Methodology: A cross-sectional study of a cohort of 150 patients taking first-line ART in Dar-es-Salaam was conducted. Data were collected using standardized questionnaires and patients' blood samples. HIV viral load testing and genotyping was performed on all viremic samples. Statistical analyses compared clinical responders and non-responders.

Results: The median time on ART was 20 months; 71 (47%) patients were ART clinical responders. Clinical non-responders were more likely to have started ART with advanced disease with significantly lower median percentage weight gain (6% versus 20%) with respect to pre-treatment levels. Sixty-one (86%) and 64 (81%) of clinical responders and non-responders, respectively, had undetectable viral loads. Genotyping was successful in 24 (96%) virologically failing patients, among whom 83% had resistance mutations; 67% had dual nucleoside reverse transcriptase inhibitor (NRTI)/non-NRTI (NNRTI) resistance mutations. Seventeen (71%) and 19 (79%) patients had NRTI and NNRTI resistance mutations, respectively, which were related to the ART in use, with no difference between clinical responders and non-responders. The most prevalent subtypes were A and C, found in 9 (38%) and 7 (29%) patients, respectively.

Conclusions: The observed virological response was high and did not correlate with clinical response. The prevalence of ARV resistance mutations was high in viraemic patients and was related to the ARV prescribed. We recommend use of viral load monitoring during ART in Tanzania.