Retrovirology

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Oral presentation

Anti-Retroviral Therapy (ART) Monitoring and the Development of the Oligonucleotide Ligation Assay for Detecting Critical Drug-resistant Mutations in HIV-2 Patients in Preparation of the Global Fund Initiative in The Gambia

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Background

Data on resistance mutations in HIV-2 infected patients are limited. With the Global Fund Initiative a large number of HIV-2 patients will receive ART. It is important to monitor the response of HIV-2 infected patients to ART and to study their resistance profiles. Developing cheaper and more sustainable assays are a priority, especially in resource-poor settings.

Materials and methods

A cohort of 8 treatment-naïve HIV-2 infected patients received ART and was studied longitudinally for about 7 years; clinical, immunological, virological and data were collected. The entire HIV-2 protease and RT was amplified, sequenced and analysed for several time points. An Oligonucleotide Ligation Assay (OLA) was developed for the detection of resistance mutations.

Results

The mutations M184V (7/8), Q151M (1/8), K65R (1/8) mutations were observed. HIV-2 OLA was successfully developed for M184V, a classic Lamivudine mutation and for Q151M, a multi-drug resistance mutation.

Conclusion

We identified important HIV-2 mutations and developed a simple, economical and sustainable HIV-2 OLA for the detection of these resistance mutations.