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Poster Exhibition
Track A - Resistance in Treatment-experienced Patients

WEPE0034 - Drug resistance degree is associated with duration of ARV exposure and predicted by baseline CD4 and gender in HIV-infected patients failing first-line WHO-recommended ARV regimen: a cross-sectional viral load survey of a cohort in Cameroon (Médecins sans Frontières-Ministry of Health)

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Background: The absence of routine virologic monitoring in resource-limited settings may favor accumulation of resistance mutations, thus hampering second-line treatment efficacy. Knowing predicting factors for resistance extent could help to preserve options for future salvage regimens.
Methods: Cross-sectional viral load (VL) sampling with genotyping for VL >400 copies/mL on cameroonian HIV-infected subjects receiving ARV (nevirapine/efavirenz, stavudine/zidovudine, lamivudine) since 2001.
Results: Among 573 subjects with sampled VL, 97 (16.9%) had detectable viremia, 84 were genotyped (70% women). The mean number of reverse-transcriptase (RT) and, specifically, NRTI mutations increased per year of ARV exposure (0.33, 1.74, 2.81, 2.77 and 0.17, 0.85, 1.27, 1.77 at 1, 2, 3, >3 years; p for trend 0.03 and 0.02, respectively). Baseline CD4 counts were correlated with number of RT, NRTI and NNRTI mutations (r=-0.35, -0.38, -0.23; p=0.0009, 0.0003, 0.04, respectively). Multivariable analysis: by GLM (covariates: age, baseline BMI, baseline CD4≤ or >50/mm^3, gender, WHO stage), the adjusted mean number of RT, NRTI and NNRTI mutations was higher for subjects with baseline CD4≤50/mm^3 vs >50/mm^3 (3.75 vs 1.32, 2.10 vs 0.56, 1.65 vs 0.76; p<0.0001, <0.0001, 0.005, respectively); the adjusted mean number of RT and NNRTI mutations in women vs men was 3.16 vs 1.91, p=0.03 and 1.60 vs 0.81, p=0.015, respectively. At logistic regression, being a woman was predictive of ≥1 NRTI mutation (OR 4.05, 95%CI 1.19-16.67); baseline CD4≤50/mm^3 was predictive of ≥1 RT mutation (OR 5.36, 95%CI 1.68-20.58), ≥1 NRTI mutation (OR 7.49, 95%CI 2.20-32.14), ≥1 NNRTI mutation (OR 4.25, 95%CI 1.36-15.48), ≥1 TAM (OR 8.45, 95%CI 2.16-40.16), and etravirine resistance (OR 4.72, 95%CI 1.53-15.70).
Conclusions: Failing patients with baseline CD4 ≤50/mm^3 are at higher risk of extensive drug-resistance, that increases over time of ARV exposure when virologic monitoring is not available. Earlier ARV initiation, and targeted VL testing, should be considered to preserve options for second-line regimens in resource-limited settings.
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