SWITCH FROM TENOFOVIR DF TO RALTEGRAVIR IS NOT ASSOCIATED WITH WEIGHT GAIN OVER 96 WEEKS

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Background: Integrase inhibitor-based antiretroviral therapy (INSTI-ART) has been associated with unexplained weight gain. The reported data are partially confounded by the expected recovery to health seen with ART initiation. Minimal data have been presented regarding a switch to raltegravir-based ART in patients with an undetectable viral load.

Methods: We retrospectively evaluated serial weight data from a non-randomised study that evaluated changes in bone mineral density (BMD) over 96 weeks after switching from tenofovir disoproxil fumarate (TDF) 300mg daily to raltegravir 400mg twice daily. Comparisons were made using t-tests.

Results: The study population comprised 37 HIV-infected adults (36 men, mean age 49 years, mean weight 79.6kg, mean body mass index 26.1kg/m^2) with viral load <50 copies/mL plasma on TDF-based ART, no prior INSTI exposure, and low BMD (t-score <-1) at the hip or spine. Despite an increase in BMD, mean weight changes at Weeks 24, 48 and 96 were not significant: Week 24 (mean change +0.8kg [95% confidence interval -0.3, 1.9], p=0.16); Week 48 (-0.1kg [-1.9, 1.7], p=0.91); Week 96 (+0.5kg [-6.5, 7.5], p=0.88). Change in weight at Week 48 was inversely correlated with baseline weight (rho=-0.401; p=0.01), but not with baseline age, alcohol consumption, smoking status, TDF duration, creatine kinase, albumin or BMD, suggesting that weight change after baseline mainly reflected regression to the mean. Weight change did not correlate significantly with change in creatine kinase or BMD (p≥0.3).

Conclusions: In this virologically-suppressed population, switching from TDF to raltegravir 400mg twice daily resulted in an increase in BMD without a change in weight. Weight change after baseline mainly reflected regression to the mean. Weight gain may not occur with switch to INSTI-ART in virologically suppressed individuals, and may not be associated with all INSTIs.

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