

WEIGHT CHANGE WHEN DISCONTINUING INTEGRASE STRAND TRANSFER INHIBITORS IN PEOPLE LIVING WITH HIV

Tieosapjaroen W,^{1,2}, Chow E^{1,2,3}, Fairley C^{1,2}, Hoy J⁴, Aguirre I¹, and Ong J^{1,2,5}

¹Melbourne Sexual Health Centre, Alfred Health, Melbourne, Australia, ²Central Clinical School, Monash University, Melbourne, Australia, ³Centre for Epidemiology and Biostatistics, The University of Melbourne, Melbourne, Australia, ⁴Department of Infectious Diseases, Alfred Hospital and Monash University, Melbourne, Australia, ⁵Faculty of Infectious Diseases, London School of Hygiene and Tropical Medicine, London, United Kingdom

Background: Integrase Strand Transfer Inhibitors (INSTIs) can cause weight gain, but little is known about whether ceasing INSTI treatment results in weight loss. This study evaluated weight changes associated with different antiretroviral (ARV) regimens, including weight change when discontinuing INSTIs.

Methods: A retrospective longitudinal cohort was conducted using data extracted from the electronic database at Melbourne Sexual Health Centre (MSHC), Australia, from 2011-2021. We calculated the weight change per time unit by ARV regimen using generalized estimated equations (GEE). We adjusted for age, gender, time on ARV and concomitant use of Tenofovir Alafenamide (TAF). GEE was used to analyse risk factors for weight gain when using INSTIs.

Results: There were 1,540 people living with HIV(PLWH) (4,548 person-years) included: 1,292 using INSTIs (mean age 34, 90% males), 147 using protease inhibitors (PIs, mean age 39, 85% males), and 369 using non-nucleoside reverse transcriptase inhibitors (NNRTIs, mean age 37, 82% males). PLWH using INSTIs, PIs, and NNRTIs gained 0.65 kg per year ($P<0.001$), 0.20 kg per year ($P=0.166$) and 0.35 kg per year ($P=0.008$), respectively. When switching off INSTI, there was no significant weight change at 0.82 kg per year ($P=0.055$), regardless of INSTI types. Only PLWH who were on raltegravir continued to gain weight after discontinuing raltegravir at 1.30 kg per year ($P=0.025$). Risk factors for weight gain in INSTI users were age under 60 years, male and concomitant use of tenofovir alafenamide (TAF).

Conclusions: The weight gain after INSTI use in PLWH does not appear reversible to the pre-INSTI level. Careful observation of weight after INSTI use and early initiation of strategies to avoid weight gain are important to prevent permanent weight gain and associated morbidity.

Disclosure of interest statement – Industry:

None.

This work was supported by the National Health and Medical Research Council (NHMRC) [GNT1193955 to J.J.O.; GNT1172873 to E.P.C.F. and GNT1172900 to C.K.F.].