RESISTANCE ANALYSES OF BICTEGRAVIR/EMTRICITABINE/TENOFOVIR ALAFENAMIDE SWITCH STUDIES

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Background:
Integrated resistance analyses are described for 2 phase 3 studies of stably suppressed HIV-1 infected adults who switched to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) from a boosted protease inhibitor (PI) + 2 nucleoside reverse transcriptase inhibitors (NRTIs) (N=290; Study 1878) or dolutegravir (DTG) + abacavir (ABC)/lamivudine (3TC) (N=282; Study 1844).

Methods:
Historical plasma HIV-1 RNA genotypes and retrospective proviral DNA genotyping of baseline viral isolates were analysed. Viral isolates from patients with HIV-1 RNA ≥200 copies/mL at confirmed VF, discontinuation, or W48 were analysed for protease (PR), reverse transcriptase (RT), and integrase (IN) genotype and phenotype.

Results:
Of the 572 patients who switched to B/F/TAF, pretreatment historical genotypes and/or retrospective proviral DNA genotypes of baseline viral isolates were obtained from 394 patients for PR/RT and from 158 patients for IN. Preexisting primary integrase strand transfer inhibitor (INSTI) resistance (-R), NRTI-R, nonnucleoside RT inhibitor (NNRTI)-R, and PI-R substitutions were observed in 0.6% (1/158), 14.0% (55/394), 18.3% (72/394), and 6.3% (25/394), respectively. Pre-switch resistance to F and/or TAF was retrospectively detected at baseline in 8.9% (35/394) of patients and consisted of K65N/R (n=5), M184V/I (n=30), and/or ≥3 thymidine analog mutations that include M41L or L210W (n=4) in RT. Overall, 1.4% (8/572) of B/F/TAF treated patients experienced VF through W48. Of the 35 patients with preexisting F/TAF resistance, 1 (2.9%) experienced VF due to nonadherence. Postbaseline resistance analyses were conducted on viral isolates from 5 patients in the B/F/TAF group and 7 patients in the comparator groups. No patients on B/F/TAF developed de novo resistance to study drugs. One patient on boosted darunavir + ABC/3TC developed a treatment-emergent L74V substitution in RT.

Conclusion:
Low rates of virologic failure occurred among the 572 patients who switched to B/F/TAF, including the 35 with preexisting F/TAF resistance. Through W48 there was zero treatment-emergent resistance in B/F/TAF-treated patients.

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