Sustained viral suppression among participants with pre-existing M184V/I who switched to bictegravir/emtricitabine/tenofovir alafenamide

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Background
Pre-existing resistance can affect antiretroviral therapy efficacy in people living with HIV. One of the most common treatment-emergent resistance substitutions is M184V/I. This substitution can be transmitted, archived in the viral reservoir, and reactivated, even when genotyping shows wild-type virus. Studies 1844, 1878, 4030, 4449, and 1474 demonstrated the safety and efficacy of switching stably suppressed HIV-1-infected individuals to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF). In this pooled analysis, we investigated the prevalence of pre-existing M184V/I and impact on virologic outcomes.

Methods
Participants enrolled were aged ≥18 years (studies 1844, 1878, and 4030), ≥65 years (study 4449), or 6 to <18 years (study 1474). Pre-existing drug resistance was assessed by historical genotypes and/or retrospective proviral DNA genotyping (GenoSure Archive® assay, Monogram Biosciences). Virologic outcomes were based on last available on-treatment HIV-1 RNA, where early discontinuation with HIV-1 RNA <50 copies/mL was considered suppressed.

Results
Altogether, 1545 participants switched to B/F/TAF and were treated for 24 to 144 weeks. Cumulative baseline genotypic data from historical and/or proviral genotypes were available for 88% (1356/1545). Pre-existing M184V/I was detected in 9.7% (132/1356) of participants: by proviral genotyping only (83%, 109/132), historical genotype only (9%, 12/132), or both (8%, 11/132). At baseline, participants with pre-existing M184V/I were 15–78 years old. At the time of analysis (≥24 weeks of B/F/TAF treatment), 98% (129/132) of participants with pre-existing M184V/I were suppressed compared to 99% (1528/1545) of the overall B/F/TAF study population. No B/F/TAF-treated participant developed new drug resistance.

Conclusions
Pre-existing M184V/I was detected in nearly 10% of suppressed participants' baseline genotypes, the majority of which was previously undocumented. High rates of virologic suppression in participants who switched to B/F/TAF, and the absence of treatment-emergent resistance, indicate B/F/TAF may be an effective and durable treatment for suppressed patients with archived M184V/I.

Disclosure

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