



Eighth International Congress on Drug Therapy in HIV Infection

Glasgow, UK - 12-16 November 2006

[PL3.4] HIV-1 SUBTYPE C VIRUSES RAPIDLY DEVELOP K65R RESISTANCE AGAINST ddI AND TENOFOVIR

Int Cong Drug Therapy HIV 2006 Nov 12-16;8:Abstract No. PL3.4

Mark A Wainberg, Florence Doualla-Bell, Tendani Gaolathe, Madisa Mine, Max Essex, Bluma Brenner
McGill University AIDS Centre, Montreal, Canada; Botswana-Harvard AIDS Initiative Partnership, Princess Marina Hospital, Gaborone, Botswana

PURPOSE OF THE STUDY: The K65R substitution can cause extensive cross-resistance among currently used NRTIs, yet this mutation has rarely been observed among subtype B infected individuals who receive antiretroviral (ARV) drugs. We evaluated the incidence of K65R in subtype C patients in Botswana, who received ARV therapy in the context of first and second line regimens.

METHODS: We studied the reverse transcriptase (RT) genotypes of 23 individuals who failed therapy, *i.e.* rising viral loads and diminishing CD4 counts, while on combination regimens that included ddI and d4T. Ten of these individuals had initiated treatment with ddI/d4T-based regimens while 13 had started therapy with ZDV/3TC/NVP or ZDV/3TC/EFV prior to switching to ddI-and/or d4T-containing combinations.

SUMMARY OF RESULTS: Of the 23 patients followed, 7 possessed K65R and no-one possessed L74V after a median exposure to combination ddI/d4T of only eight months (range 4-18 months). In contrast, none of 13 patients who received 3TC/ZDV as initial therapy prior to d4T/ddI developed K65R, although most of them developed thymidine-associated mutations (TAMs); this is potentially due to antagonism between TAMs and K65R. In tissue culture studies, K65R was detected after only 12 weeks in 4/4 and 3/4 selections with Tenofovir and ddI, respectively, but far longer periods were required for relatively infrequent selection of K65R by Tenofovir with subtype B viruses (>40 weeks; 2/7 selections).

CONCLUSIONS: K65R may emerge at higher frequency in individuals infected with subtype C viruses who experience treatment with certain NRTIs, establishing the need to monitor for the presence

of this mutation and its possible transmission.

Plenary Session: New Challenges in Providing ART [IAS Session]

2006-11-12

PL3.4

Copyright © 2006 - [Thomson ACUMED](#)® All rights reserved. Thomson ACUMED® is an intelligent and innovative medical marketing and communications agency – a new division of The Gardiner-Caldwell Group Ltd, part of The Thomson Corporation, located in Tytherington, UK.

Reproduction of this abstract (other than one copy for personal reference) must be cleared through the authors.

This information is designed to support, not replace, the relationship that exists between you and your doctor. ©1980, 2006. AEGiS.