Drugs 2003; 63 (15): 1609-1610
0012-6667/03/0015-1609/$33.00/0

© Adis Data Information BV 2003. All rights reserved.

Tenofovir Disoproxil Fumarate
A Viewpoint by Tony Antoniou

Inner City Health/HIV Program, St. Michael's Hospital, Toronto, Ontario, Canada

Although nucleoside analogues remain important components of antiretroviral regimens, several limitations of this class of antivirals have become evident. The potential for cross-resistance among the nucleoside analogues and the emergence of novel toxicities likely to be attributable to mitochondrial toxicity (e.g. lactate disturbances, lipoatrophy) are particularly troublesome issues.

Tenofovir disoproxil fumarate (tenofovir DF) appears to address some of these limitations. In antiretroviral-experienced patients with HIV infection, the addition of tenofovir DF to stable background antiretroviral therapy resulted in significant reductions in HIV-1 RNA compared with placebo at 24 weeks. These improvements were maintained after 96 weeks of treatment with tenofovir DF. Tenofovir DF is also generally well tolerated. Furthermore, tenofovir DF appears to be less cytotoxic than most available nucleoside analogues, and does not appear to cause significant mitochondrial toxicity *in vitro*. Finally, at a dose of one tablet per day with a meal, tenofovir DF is a convenient option for patients.

However, there are several unresolved issues with tenofovir DF that warrant further study. Since the signature tenofovir DF mutation (K65R) can confer varying degrees of resistance to didanosine, abacavir, stavudine and lamivudine, the early use of tenofovir DF may have implications on subsequent drug selection. In addition, the long-term toxicity profile of tenofovir DF remains largely unknown. Although no effect of tenofovir DF on bone metabolism was noted in a subgroup of patients enrolled in a dose-ranging study after 48 weeks of treatment, more data are needed. Also, case reports describing tenofovir DF-mediated acute renal failure and Fanconi syndrome highlight the small risk of nephrotoxicity associated with this drug.

In summary, tenofovir DF represents a useful new addition to the antiretroviral arsenal, particularly in antiretroviral-experienced patients with HIV infection. Although effective in antiretroviral-naive patients, it is not apparent if using tenofovir DF early in the course of antiretroviral therapy offers advantages over currently available agents without compromising future options. ▲