

Stable and low prevalence of primary HIV-1 drug resistance despite two decades of antiretroviral therapy in Hong Kong

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Background: Transmitted HIV resistance is of both clinical and public health importance. However, more data is available from western countries as compared to other parts of the world including Asia. We studied the pattern and temporal trend of drug resistance in treatment naïve HIV-1 infected patients in Hong Kong.

Methods: Baseline genotypic resistance testing was performed for HIV-1 infected patients newly diagnosed from 2003 to 2007 who attended the government HIV clinic. International AIDS Society – USA mutation figures was used to identify resistance mutations. The pattern and factors associated with resistance were examined.

Results: Presence of one or more IAS-USA resistance mutations was found in 26(3.6%) of 731 patients over the 5-year study period. Overall, protease inhibitor (PI) resistance mutations were most common (16) , followed by nucleoside reverse transcriptase inhibitor (NRTI)(8) and non nucleoside reverse transcriptase inhibitor (NNRTI)(3). Resistance to drugs in one, two and three classes was present in 25 (3.4%), 1 (0.1%) and 0 respectively. The commonest PI mutations were M46L (7),M46I (3)and L33F (3) while NRTI mutation was K219Q (4). There was no discernable temporal trend of increase in resistance. Sex between men was associated with harbouring resistant strains.

Conclusion: Primary HIV-1 drug resistant is uncommon up to 2 decades of antiretroviral therapy provision in Hong Kong. The present situation, albeit reassuring, has to be continually monitored to inform public health epidemiology as well as drug treatment at individual care level.

Key words: HIV-1 resistance, antiretroviral treatment, Asia, public health surveillance