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INCREASED FREQUENCY OF DRUG-RESISTANCE RELATED MUTATIONS IN HIV-1 SUBTYPE-C ISOLATES IN TREATMENT NAÏVE INDIVIDUALS FROM NORTH INDIA

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We genotyped the RT and PI regions of the *pol* gene of HIV-1 from treatment-naive infected individuals in North India to evaluate the prevalence of drug resistance HIV infection and correlate with previous findings[1]. Plasma samples from 100 newly diagnosed HIV-1-infected drug-naive individuals were subjected to genotyping for protease and RT regions of the *pol* gene were amplified from cDNA reverse transcribed from plasma viral RNA by single or nested polymerase chain reaction (PCR). Sequences of amplified products were analyzed for mutations using the Stanford DR and REGA database. Seven out of sixty six (10.6%) isolates from treatment-naïve patients showed mutations in the RT gene affecting drug susceptibility. Among these one patient showed a mutation at major NNRTI position G190V giving high resistance to Nevirapine (in the previous report too, one of the 49 RT regions sequenced showed this mutation). In case PI, in the previous study[1] we found one HIV sample with intermediate resistance to Nelfinavir (NFV). We did not see any such mutation causing significant drug susceptibility during current period of study but found 2 out of 70 isolates (1.4%) with T74S mutation causing potentially low level resistance to Nelfinavir, which were not seen in our previous study. Our study indicates increase in the mutation frequency associated with resistance to PIs, NNRTIs, and NRTIs among HIV-1 isolates from treatment-naive individuals in in the same region of North India. This is an important new observation as no such data have previously been available from this region. This also indicates the possibility of an increase in transmission of drug-resistance variants among the population where the ART has been made available relatively recently. It also emphasises the need for a genotype analysis before deciding the treatment regimen.

[1]Arora SK, Gupta S, Toor JS, Singla A. Drug Resistance-Associated Genotypic Alterations in the *pol* Gene of HIV Type 1 Isolates in ART-Naive Individuals in North India, AIDS RESEARCH AND HUMAN RETROVIRUSES, 2008;4(2):125-130