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Patient characteristics and treatment outcomes associated with protease inhibitor (PI) use in the Asia-Pacific region

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Purpose of the study

PI-based regimens are rarely used in developing countries due to the high cost and low availability. We evaluated characteristics of patients initiating PI-based therapy according to previous antiretroviral (ARV) exposure; factors associated with initiating a PI therapy using newer vs. older PIs; and detectable viral load (VL) following the initiation of a PI-based regimen.

Methods

This analysis includes all patients initiating a PI-based regimen. ARV exposure was categorised according to the initiation of PI-based therapy: naïve (no previous ARV), 1st, 2nd, >3rd switches; a switch was defined as starting or stopping any drug in a regimen. Newer PIs were defined as those that were approved by the US FDA after January 1, 2000. Detectable VL at 12 months was defined as VL > 400 copies/mL. Characteristics at PI initiation were evaluated. Logistic regression was used to determine factors associated with initiating a newer PI and detectable VL at 12 months after a PI initiation.

Summary of results

1,106 patients initiated PI-based therapy, [618 (56%) were naïve to PI-based therapy] and the main reason for a change to PI was treatment failure (26%). Following PI initiation, 793 (72%) had VL measurements at 12 months. For multiple logistic regression analysis, switch patients were less likely to use a newer PI [1st, odds ratio (OR) = 0.22, p < 0.001; 2nd, OR = 0.12, p < 0.001; and >3rd switches, OR = 0.14, p < 0.001; vs. naïve]. Being from a high income country (vs. mid/low income OR = 1.67, p = 0.005), patent PI (vs. generic PI, OR = 18.64, p < 0.001), and years from HIV diagnosis to PI initiation (OR = 1.07 per year, p = 0.017) were associated with more use of a newer PI. Overall, 22% (176) of patients had detectable VL at 12 months following the PI initiation. Among naïve patients, the only predictor for detectable VL was baseline CD4 [CD4 200–350 cells/μL, OR = 0.28, p = 0.001; CD4 > 350 cells/μL, OR = 0.73, p = 0.445; vs. CD4 <200 cells/μL]. In experienced patients, higher baseline CD4 [CD4 200–350 cells/μL, OR = 0.39, p = 0.024; CD4 > 350 cells/μL OR = 0.69, p = 0.469; vs. CD4<200 cells/μL] was less likely to have a detectable VL. Being from a high income country (vs. mid/low income, OR = 1.80, p = 0.034) was more likely to associate with detectable VL.

Conclusion

Newer PI-based regimens were prescribed more in high income countries than in other countries in Asia. Short-term virological outcomes following PI therapy in our cohort were good, and were related with CD4 count at time of initiation.