

TWENTY YEARS OF EFFECTIVE ANTIRETROVIRAL THERAPY: INVESTIGATING RESPONSE TO TREATMENT AND CHANGES IN TREATMENT IN AUSTRALIA

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Background:

The Australian HIV Observational Database (AHOD) has more than 20 years of antiretroviral therapy (ART) data. It provides a unique opportunity to map the changes and response to treatment from the early years of effective ART to the present.

Methods:

AHOD patients were categorised into four periods by year of ART initiation: ≤1999 (very early ART), 2000-2006 (early to mid-ART), 2007-2011 (mid ART) and ≥2012 (recent ART). Descriptive statistics and time-to-event methods were used to compare treatment-related factors between groups.

Results:

Of 3183 eligible AHOD patients, 978 (30.7%) started ART in the very early ART era, 785 (24.7%) in the early to mid-ART era, 830 (26.1%) in the mid-ART era and 590 (18.5%) in the recent ART era. Median time from diagnosis (in months) to ART initiation decreased from 53.0 (interquartile range (IQR) 6.0-101.9) in very early ART, to 38.7 (IQR 3.0-111.3), 30.0 (IQR 4.9-76.6), and to 8.4 (IQR 1.3-47.3) in recent ART. Median CD4+ counts (cells/mm³) at ART initiation were 333 (IQR 180-500), 274 (IQR 170-450), 290 (IQR 187-408) and 420 (IQR 280-580), respectively. Rates of viral suppression increased steadily from 103.0 per 100 person-years (95%-confidence interval (CI) 95.5-111.1), to 177.8 (CI 162.4-194.2), to 351.8 (CI 320.9-383.3) to 437.1 (CI 394.2-483.4), respectively. Rates of virological failure following suppression decreased from 16.8 per 100 person-years (CI 14.8-18.9) to 10.3 (CI 8.8-12.1), 3.6 (CI 2.8-4.5) and finally 1.9 (CI 1.1-3.0) in the recent era. Rates for switching regimen for reasons other than virological failure (including toxicity and treatment simplification) increased from 4.7 per 100 person-years (CI 4.1-5.4) to 7.3 (CI 6.4-8.3), 9.0 (CI 8.0-10.2) and 10.1 (CI 8.5-12.0).

Conclusion:

In Australia, most people with HIV (PWH) on ART now achieve durable suppression of HIV replication. Overall, PWH have vastly improved long-term immunological and virological response to treatment in the recent ART era.

Disclosure of Interest Statement:

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