FAILURE OF ANTIRETROVIRAL THERAPY (ART) IN ADULTS IN AUSTRALIA IS MAINLY DUE TO ART TOXICITY

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Background
Lifelong antiretroviral therapy (ART) is recommended for all patients. Reasons for ART failure in virologically-suppressed patients are poorly understood.

Methods
We recruited 522 adults living with HIV on stable ART for ≥3 months with undetectable viral load into a nationwide cohort between September 2014 and November 2015. ART failure was defined by ART switch (for toxicity or interactions), virological failure, progression to AIDS, death, or loss to follow-up. Factors associated with ART failure through Month 12 were determined using Cox proportional hazards regression.

Results
115 episodes of ART failure occurred in 102 participants (19.5%), primarily for toxicity requiring an ART switch (n=64, 12.3%); mostly nephrotoxicity (n=21, 4.0%), central nervous system symptoms (n=14, 2.7%), side effects (e.g. nausea/vomiting) (n=16, 3.1%), hepatotoxicity (n=8, 1.5%), and metabolic toxicity (n=6, 1.1%). Other reasons for ART failure were: virological failure (n=26, 5.0%); drug interactions (n=13, 2.5%); death (n=3, 0.6%); AIDS (n=2, 0.4%); loss to follow-up (n=2, 0.4%); and difficulty taking ART (n=1, 0.2%). The median time to the first failure event was 187 days (IQR 106-282).
ART failure was independently associated with: interrupting concomitant medications in the year prior to baseline (adjusted hazard ratio [AHR] 2.3, 95% confidence interval [95% CI] 1.1-4.6, p=0.021); sexually transmitted infection in the year prior to baseline (AHR 0.4, 95% CI 0.2-0.9, p=0.044); diagnosed active psychiatric illness at baseline (AHR 1.9, 95% CI 1.2-3.0, p=0.005); developing a new comorbidity (AHR 2.9, 95% CI 1.6-5.3, p=<0.001), and developing a new estimated glomerular filtration rate (eGFR) <60mL/min/1.73m^2 (AHR 1.9, 95% CI 1.1-3.2, p=0.021). Suboptimal ART adherence was not predictive of ART failure.

Conclusions
Despite near universal ART availability and government-subsidised healthcare, nearly 20% of our sample experienced ART failure over 12 months, primarily for toxicity. Virological failure was less common.

Disclosure of interest statement

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