A New Rapid Antiretroviral Start Program in Edmonton: a Retrospective Review of Outcomes for the First 18 Months Post Implementation

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Introduction

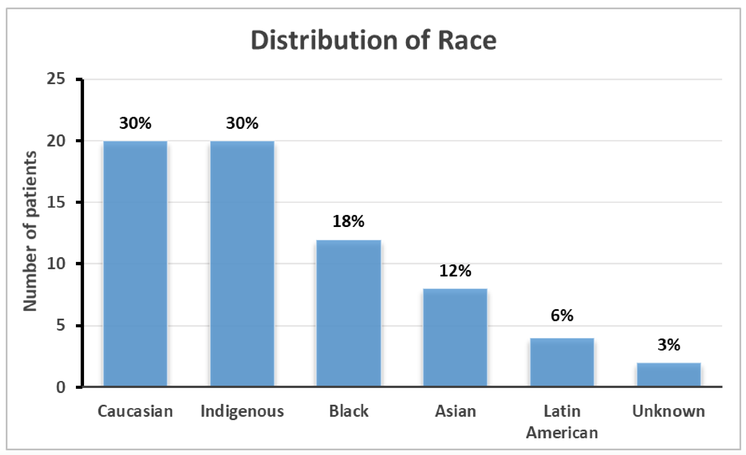
Rapid start of antiretroviral therapy (ART) for patients newly diagnosed with HIV reduces time to virologic suppression (VS) and hence transmission. We evaluated a local rapid start program to describe trends in our cohort and identify at-risk populations.

Methods

- Retrospective review of the rapid start ART program at the largest HIV clinic in Edmonton from inception (September 2019) to February 2021
- Inclusion: all adults with new HIV diagnosis and no prior ART
- Follow-up period: at least 6 months
- Primary outcome: time to VS (viral load < 200 copies/mL)
- Secondary outcomes: time from referral to intake visit, time to ART initiation and MD follow-up, ART regimen
- Demographic subgroups analyzed:
  - Race (self-reported)
  - Residence (Edmonton vs non-Edmonton)
  - Presence of Alberta Health Care (AHC)
- Statistical analysis: t tests were used for pairwise comparisons for parametric data and Mann-Whitney U tests for non-parametric data

Patient Demographics

- 65 patients were assessed in the study period
- Mean age was 39.1 years. 45 (69%) patients were male
- 24 (37%) resided outside of Edmonton, 15 of which were rural
- 56 (86%) had active AHC at time of referral

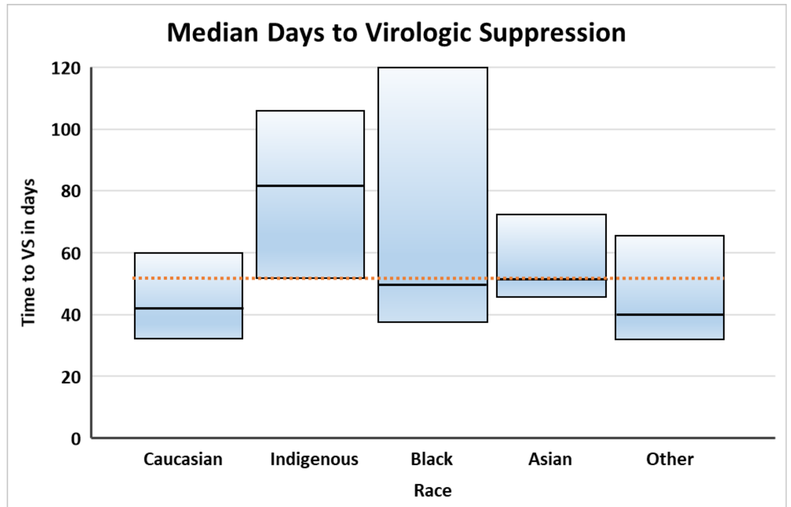


Results

- All but one patient received an integrase strand transfer inhibitor (INSTI)-based regimen
- 61 (94%) patients documented VS
- 6 (9%) patients had opportunistic infection or AIDS-associated malignancy (3 lymphoma, 2 pneumocystis pneumonia, 1 esophageal candidiasis)
- Baseline viral load and CD4 count were similar across racial groups and among Edmonton compared to non-Edmonton residents
- Baseline resistance-associated mutations (RAMs) were found in 4 patients and none conferred INSTI resistance by phenotypic analysis

Time to Virologic Suppression

- Median time to VS was 54 days from date of referral (interquartile range [IQR] = 38-96 days)
  - Significantly longer for Indigenous vs non-Indigenous patients (82 vs 50 days, p = 0.038)
  - Significantly longer for non-Edmonton residents (63 vs 50 days, p = 0.028)
  - Presence of AHC did not affect time to VS
- Statistically significant differences were maintained when time to VS was calculated from date of ART start



Dotted line represents median time to VS in entire cohort
For each race, medians shown by solid line, IQR by box

Time to Clinic Intake

- Median time to clinic visit was 7 days from referral (IQR 4-16 days)
  - Significantly longer for non-Edmonton residents (14 vs 6 days, p = 0.019)
  - Significantly longer for patients without AHC compared to with those with AHC (19 vs 6 days, p = 0.024)
  - Longer for Indigenous vs non-Indigenous patients (12 vs 6 days, p = 0.076)
- ART was initiated within 24 hours of intake in 43 (67%) and within 7 days in 51 (78%) patients
  - Delays longer than 7 days were due to social reasons in 7 of 14 (50%) patients, psychological reasons in 3 patients, and unknown reasons in 4 patients

Follow-up

- 64 (98%) patients had at least one MD follow-up visit
- Median time to MD follow-up was 46 days (IQR 31.5-90.5 days) and was longer for Indigenous vs non-Indigenous patients (54 vs 42 days, p = 0.12)

Conclusions

- 94% of patients achieved virologic suppression within median 54 days of referral and 34 days of ART initiation
- Delays in ART initiation were associated with decreased or delayed clinic access and are probably multifactorial
- Targeted interventions should address Indigenous and non-Edmonton residents' barriers to care
- INSTI-based antiretroviral regimens were by far the most common and transmitted INSTI RAMs were not seen