

Clinical profile, antiretroviral drug exposure and virological status of perinatally HIV-infected adolescents transferred from pediatric to adult HIV care: twenty years of experience in a public hospital in Buenos Aires Argentina.

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Background

An increasing number of perinatally HIV (PHIV)-infected adolescents are being transferred from pediatric centers to adult HIV-care. Most of them had been exposed to multiple antiretroviral treatments (ART) including suboptimal mono or dual therapy.

Our objective was to describe the clinical, immunological and virological status of PHIV-infected adolescents at admission to an adult HIV care unit. at the time of transfer to adult care.

Methods

Retrospective study of PHIV-infected adolescents transferred for adult HIV-care from different pediatric units to Cosme Argerich Hospital, Buenos Aires, Argentina (2000-2019). Clinical and virological status, ART exposure and drug resistance profile (according IAS-USA update, 2019) at the time of transition were assessed.



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Results

One hundred and fifty-five PHIV-infected adolescents were transitioned during the study period.

The median age was 18 years (IQR 17-19) and 55% were female. Forty-nine percent were orphans, 30% had low-level education and 7% reported alcohol and illicit drugs consumption. At transfer to adult care, the median CD4 T-cell count was 501/ μ L (320-674), 10% had CD4 \leq 200cells/mm³, 64% had prior CDC category C events and 7% were HCV-coinfected.

Thirty-five percent reported poor ART adherence. Forty-one percent had detectable viremia at admission. The median time of exposure to ART was 15 years (IQR 12-17), while median of previous ARTs was 3 (2-5). Sixty-five percent of the patients were exposed to NRTI, NNRTI and PI, 16% to INSTI and 38% were exposed to mono or dual-therapy (table 1).

Seventy-one percent had history of virologic failure. Of these, 47% had at least, one genotypic resistance test, being 23% done at admission to adult care. Eighty-six percent had drug resistance associated mutations (RAMs) to NRTIs; 66% to NNRTIs; 82% to PIs, 2% to INSTI, while 46% had triple-class ARV resistance. Eighteen percent required use of salvage therapy with either darunavir BID, tipranavir, maraviroc, raltegravir, dolutegravir or enfuvirtide (table 2).

In multivariable analysis, detectable viremia at transfer was associated with poor ART adherence, previous virologic failure and low-level education.

Table 1. Demographic and HIV baseline conditions of perinatally HIV-infected patients at the time of transition to adult care

Condition at admission	N=150
Age (median)	18 y
Sex M/F	45/55 %
Median CD4 T cell count	501
History of CDC C event	64 %
Detectable HIV viral load	41%
Median time of ART exposure	15 y
Salvage therapy	18%

Table 2. Virological profile of perinatally HIV-infected patients at the time of transition to adult care

Condition at admission	N=150
History of virologic failure	71%
NRTI RAMs	86%
NNRTI RAMs	66%
PI RAMs	82%
INSTI RAMs	2%
Triple-class ARV resistance	46%

Conclusions

At admission to adult care, a high proportion of PHIV-infected adolescents had a complex psychosocial context, were heavily pretreated and had history of virologic failure. Most of them had detectable viremia at transfer and this was associated to poor ART adherence, previous virologic failure and low-level education. Transitioned PHIV-infected adolescents are an ongoing challenge for adult HIV-care due to the complexity of their psychosocial condition, ART history and drug resistance profile.