Efficacy of dolutegravir-based antiretroviral regimens in perinatally HIV-1-infected youth with long-term virological failure.

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Background

- Dolutegravir (DTG) is a potent antiretroviral drug in an integrase transfer inhibitor class with high potency and convenient as a once-daily regimen.¹
- Generic dolutegravir is available since 2017, but access in Asia is limited.²

Objective

- To assess the efficacy of a dolutegravir-based regimen in HIV-infected youth with persistent virological failure with PI regimens

Methods

Design: A prospective observational cohort

Settings: King Chulalongkorn Memorial Hospital and HIV-NAT, Bangkok.

Inclusion criteria

- Perinatally HIV-infected youth aged 15-24 years
- Failing second-line boosted protease inhibitors (bPIs) for > 2 years

Study procedure

Antiretroviral regimens

A. No major PI resistance mutations: Dolutegravir/Tenofovir/Emtricitabine

B. With major PI RAMS: Dolutegravir/Darunavir/r/Tenofovir/Emtricitabine

Endpoints

- Proportion of patients achieving plasma HIV <200 and <1000 copies/mL
- CD4 T lymphocyte cell count change over time

Conclusions

- Dolutegravir-based regimens can be utilized effectively as rescue regimens for youth who are failing a second-line PI-based regimen.
- Access to generic dolutegravir is urgently needed for HIV-infected youth with treatment failure in resource-limited settings.

Acknowledgement

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Results

- From January to October 2017, 15 perinatally HIV-infected youth were enrolled (Table1).
- The previous bPI regimens were Atazanavir/r(53%), Lopinavir/r(27%), Darunavir/r(20%).
- 11 youth received **regimen A** (DTG-based) and 4 youth **regimen B** (DTG+DRV/r-based)

Table 1 Baseline characteristics (N=15)

Age	21 (16-24) years
Body weight	46 (37-65) kilogram
CD4 lymphocyte count	92 (7-367) cell/mm ³
Plasma HIV RNA	4.8 (3.8-5.7) log ₁₀ copies/mL
Duration on failing regimen	5.7 (2.0-13.0) years

* Data was shown as median (range).

Figure 1 Proportion of youth with virological suppression

Treatment outcomes

- Virological response to DTG-based regimens was shown in figure 1.
- **At week 12;** patients had rapid viral decline, 50% had plasma HIV RNA <200 copies/mL.
- **At week 24;** 40% of patients had HIV RNA <200 copies/mL. Three youths had viral suppression at week 12, after that they had viral rebound due to poor adherence.
- **At week 48;** 71% of patients achieved HIV RNA <200 copies/mL.
- Median(range) change in CD4 cell count at last visit from baseline was 36 (-1 to 458) cells/mm³.

References

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