WEIGHT GAIN AMONG ADOLESCENTS ON DOLUTEGRAVIR: A REAL CONCERN?

#2155

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BACKGROUND

Integrase Inhibitors (INI) are now the first-line treatment for people living with HIV, including children. Clinical trials among adults have risen concern, as a significant increase in weight gain has been reported during the first years after treatment initiation with INTIs, especially with dolutegravir (DTG). The first hypothesis pointed to immune reconstitution as the underlying cause of these metabolic effects of treatment initiation, however, simplification studies demonstrated similar results. Clinical trials in children and adolescents have recently demonstrated the efficacy of DTG, but there is concern regarding weight gain. Childhood and adolescence are characterized by important changes in body composition, and therefore the impact of medication may have long lasting effects.

We aim to describe anthropometric evolution of children and adolescents on DTG versus other regimens.

METHODS

Observational study within the Spanish Cohort of Pediatric HIV (CoRISpe).

Patients <24 years of age started on or switched to a dolutegravir containing regimen up to December 2019, with at least 12 months follow-up data were included in the study.

A control group of patients not receiving INI was recruited from the same cohort.

Anthropometrics were collected every 6 months for up to 24 months of follow-up.

The 2010 Spanish growth charts were used to estimate BMI-Z-Score.

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In this cohort study of children and adolescents, mostly treatment experienced, **no association between exposure to dolutegravir and weight gain was found**

3TC: lamivudine. ABC: abacavir. DTG: dolutegravir. DRV: darunavir. FTC: emtricitabine. TAF: tenofovir-alafenamide. TDF: tenofovir disoproxil fumarate.

RESULTS

- 179 patients were included, 66.3% female, 54.2% Caucasian, 30% black, 96% treatment experienced.
- Median age of 14 years (12.0 -17.3).
- Among the 83 patients on dolutegravir, 62.1% corresponded to treatment switch
- DTG was administered with abacavir plus lamivudine in 80% and 14% corresponded to DRV+DTG.
- In the comparison group, treatment was based on efavirenz (37%), rilpivirine (22%), or protease inhibitors (37%), combined with TAF/FTC (46%), ABC/3TC (27%) or TDF (17%).
- Both groups were comparable regarding age, gender distribution, ethnicity and CDC stage
- There were no differences in BMI at baseline.
- The median follow-up was 20.7months [17.1- 22.9].
- The prevalence of obesity and overweight was comparable in both groups, and remained stable over the study. (Figure 1)
- Over follow-up, no significant increase in weight z-score and/or BMI was observed (Figure 2A).
- Sensitivity analysis by gender (Figure 2B and C) and ethnicity (Figure 3) did not show differences either.

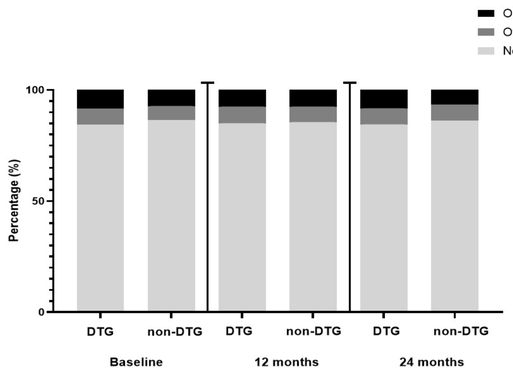


Figure 1.- Evolution over time of obesity and overweight in both groups.

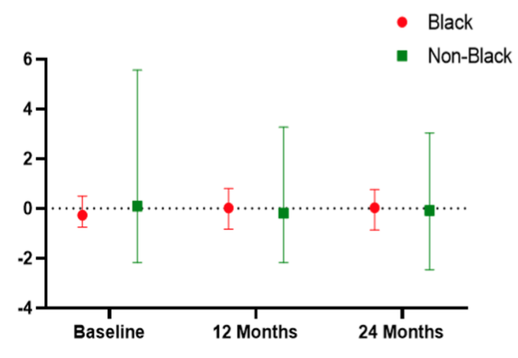


Figure 3.-. Sub analysis comparing black and non-black populations under DTG regimen.

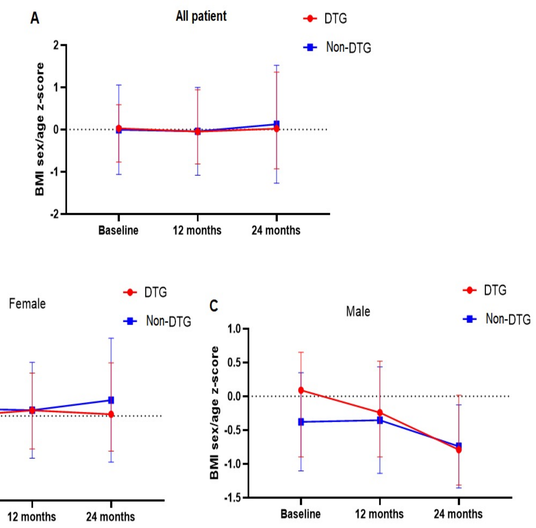


Figure 2.- Evolution of median (IQR) BMI over time in both groups. Graphic A represents evolution of BMI in all patients, B represents evolution of BMI among females and C among males.

CONCLUSIONS

- In this cohort study including children and adolescents living with HIV and on ART, **we did not observed a significant variation in anthropometric measurements over a two-year time period according to DTG exposure**.
- A differential effect of sex was not observed either.
- The evolution of black population in terms of weight gain was comparable, although the sample size was reduced in this sub analysis.
- These results are reassuring, since they contrast with the data published in adults.
- Larger, prospective studies including also naïve patients are needed to analyze in depth the anthropometric evolution of children and adolescents treated with DTG.

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