

Sergio Serrano-Villar^{1,2}, Laura Martín-Pedraza^{*1,2}, Daniel Podzamcer³, José Sanz⁴, Luis López-Cortés⁵, Alfonso Cabello⁶, Carmen Busca⁷, Miguel Torralba⁸, María José Crusells⁹, Carmen Hidalgo-Tenorio¹⁰, Vicente Estrada¹¹, Alberto Díaz de Santiago¹², Ana del Amo-de Palacios¹, Marta de Miguel¹³, Santiago Moreno^{1,2}

¹ Infectious Diseases Department, Hospital Universitario Ramón y Cajal, Universidad de Alcalá, IRYCIS, Madrid, Spain; ² CIBERINFEC, Instituto de Salud Carlos III, Madrid, Spain; ³ Hospital Universitario de Bellvitge, Barcelona, Spain; ⁴ Hospital Universitario Príncipe de Asturias, Madrid, Spain; ⁵ Hospital Universitario Virgen del Rocío, Sevilla, Spain; ⁶ Fundación Jimenez Díaz, Madrid, Spain; ⁷ Hospital Universitario La Paz, Madrid, Spain; ⁸ Hospital Universitario de Guadalajara, Guadalajara, Spain; ⁹ Hospital Clínico Universitario Lozano Blesa, Zaragoza, Spain; ¹⁰ Hospital Universitario Virgen de las Nieves, Granada, Spain; ¹¹ Hospital Clínico San Carlos, Madrid, Spain; ¹² Hospital Universitario Puerta del Hierro, Madrid, Spain; ¹³ Fundación SEIMC-GeSIDA, Madrid, Spain.

BACKGROUND

DTG/3TC and BIC/FTC/TAF are recommended ART regimens in major HIV guidelines. However, data on the metabolic and inflammatory effects of switching from DTG/3TC to BIC/FTC/TAF are scarce. We investigated the impact of this switch on metabolic parameters and systemic inflammation in virologically suppressed individuals.

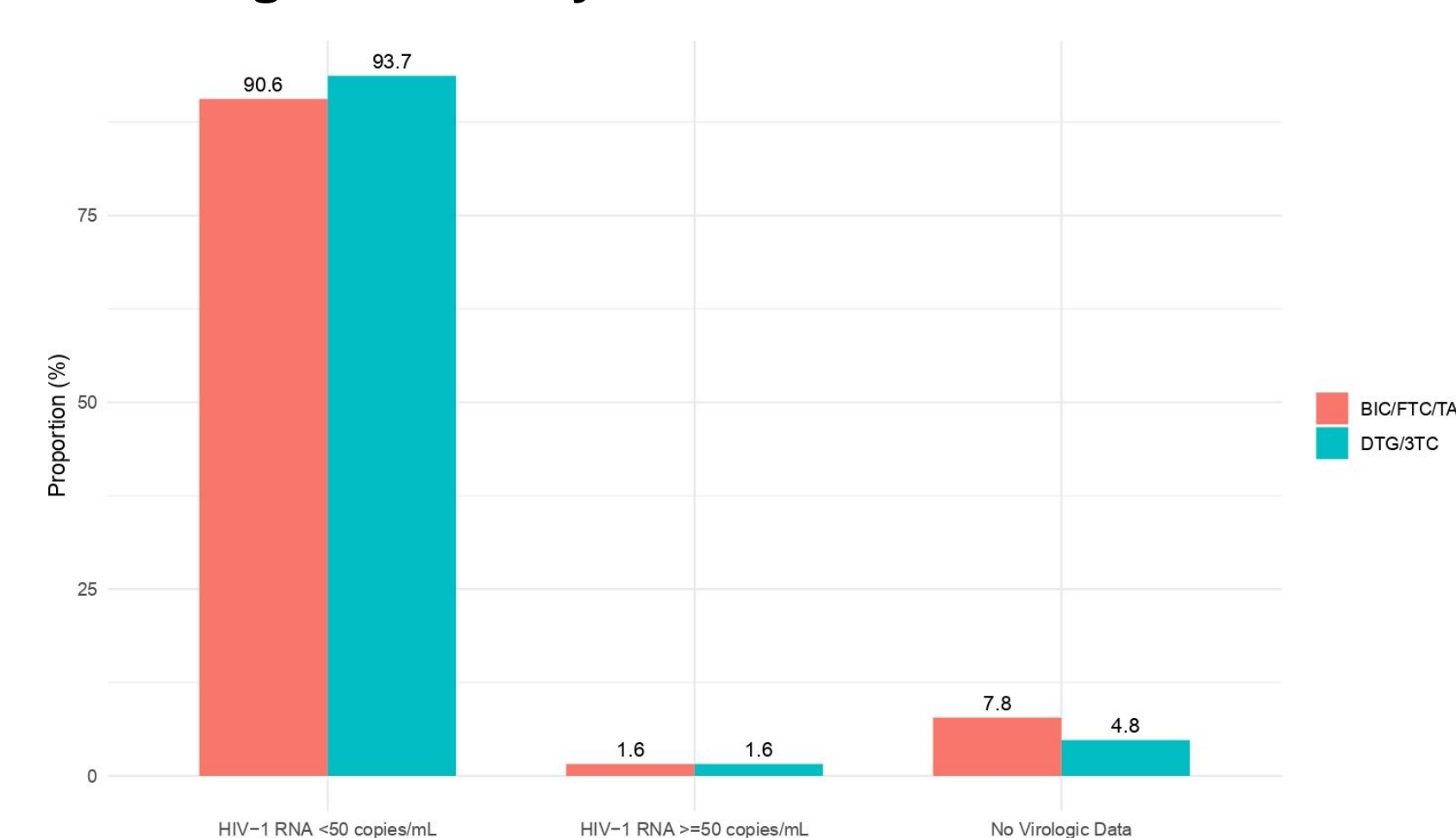
METHODS

- Randomized, open-label, multicenter INSTINCT trial (clinicaltrials.gov: NCT04076423). We evaluated the effect of switching from DTG/3TC to BIC/FTC/TAF vs. remaining on DTG/3TC on systemic inflammation up to 96 weeks. We included 141 participants. Participants were adults with confirmed, virologically suppressed HIV, on stable ART with DTG/3TC for a minimum of 48 weeks.
- We focused on IL-6 changes from baseline to week 96 using high-sensitivity ELISA (Kit Human IL-6 HS Bio-techné®).
- Statistics: Estimated treatment effects compared using linear mixed models, including treatment and time interaction terms in Stata v.18

Table 1

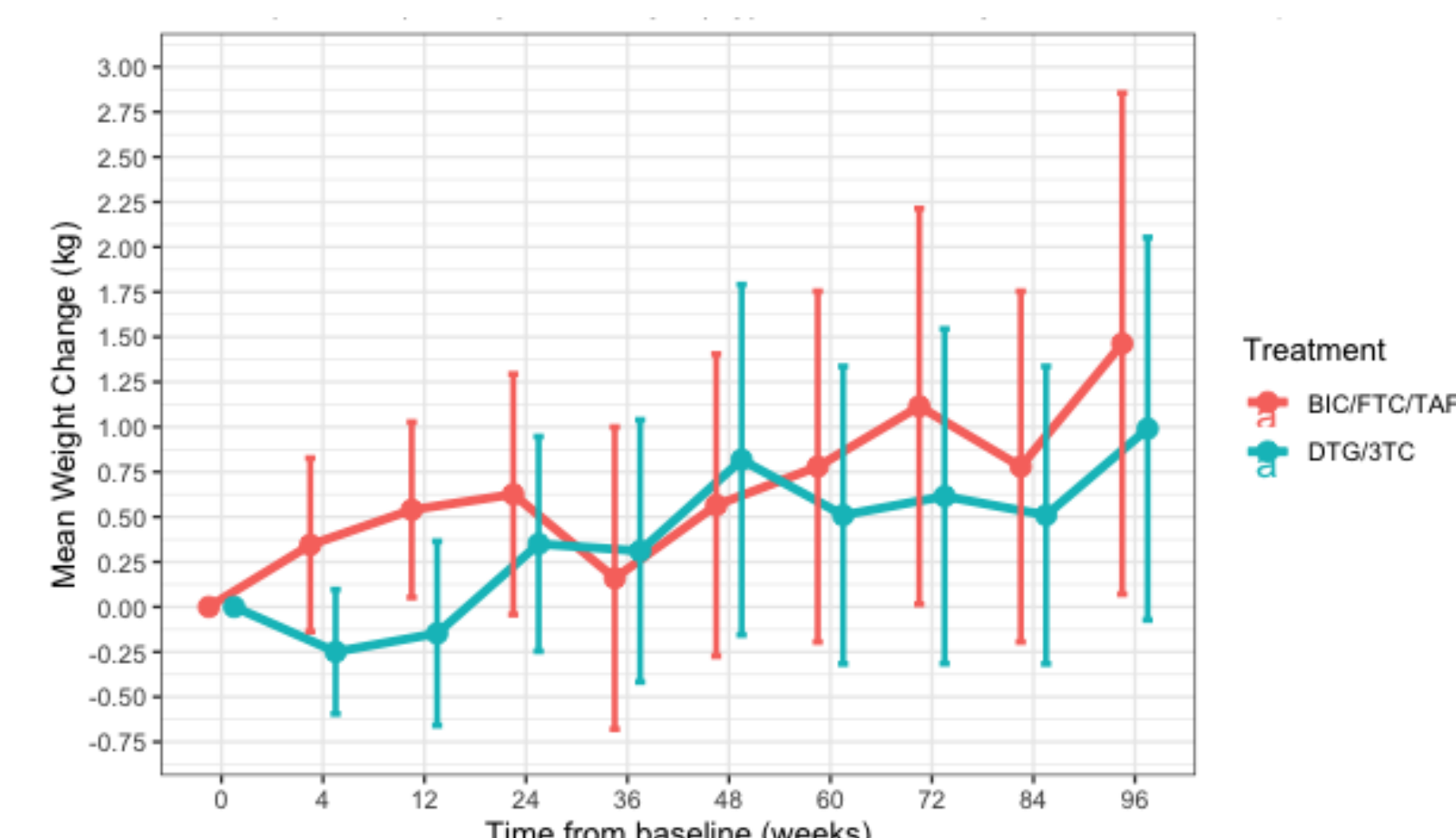
| | BIC/FTC/TAF | DTG/3TC |
|---|----------------|---------------|
| N | 70.0 (49.6%) | 71.0 (50.4%) |
| Baseline Demographics/Characteristics | | |
| Age, years (mean, SD) | 45.6 (11.2) | 44.7 (11.1) |
| Women (N, %) | 11.0 (15.7%) | 8.0 (11.3%) |
| Ethnicity (N, %) | | |
| Caucasian | 51.0 (72.9%) | 59.0 (83.1%) |
| Latin | 17.0 (24.3%) | 12.0 (16.9%) |
| Afroamerican | 2.0 (2.9%) | 0.0 (0.0%) |
| HIV-associated Variables | | |
| Risk factor for HIV acquisition | | |
| Heterosexual | 18.0 (25.7%) | 13.0 (18.3%) |
| MSM | 38.0 (54.3%) | 44.0 (62.0%) |
| IDU | 4.0 (5.7%) | 4.0 (5.6%) |
| Unknown | 7.0 (10.0%) | 8.0 (11.3%) |
| Other | 3.0 (4.3%) | 2.0 (2.8%) |
| Previous AIDS (CDC) (N, %) | 5.0 (7.1%) | 11.0 (15.5%) |
| Nadir CD4, cells/uL, mean(SD) | 352.2 (226.8) | 383.7 (263.1) |
| Previous AIDS (CDC) | 63.0 (90.0%) | 63.0 (88.7%) |
| CD4 T-cells/uL (mean, SD) | 786.8 (296.7) | 792.8 (291.7) |
| CD8+ T-cells/uL (mean, SD) | 774.3 (326.2) | 888.4 (347.4) |
| CD4/CD8 ratio (mean, SD) | 1.2 (0.6) | 1.0 (0.5) |
| Years under VL suppression (mean, SD) | 6.8 (5.8) | 6.2 (4.2) |
| Comorbidities | | |
| Infectious | 48.0 (68.6%) | 47.0 (66.2%) |
| Gastrointestinal | 63.0 (27.4%) | 52.0 (24.2%) |
| Neurologic | 21.0 (9.1%) | 26.0 (12.1%) |
| Cardiovascular | 11.0 (4.8%) | 10.0 (4.7%) |
| Respiratory | 18.0 (7.8%) | 16.0 (7.4%) |
| Metabolic | 8.0 (3.5%) | 11.0 (5.1%) |
| Renal | 31.0 (13.5%) | 26.0 (12.1%) |
| Hepatic | 3.0 (1.3%) | 5.0 (2.3%) |
| Other | 5.0 (2.2%) | 5.0 (2.3%) |
| Co-medications | 70.0 (30.4%) | 64.0 (29.8%) |
| Co-medications | 31.0 (44.3%) | 30.0 (42.3%) |
| Metabolic parameters | | |
| Baseline weight, kg(mean, SD) | 78.1 (13.8) | 76.5 (14.3) |
| BMI, kg/m ² (mean, SD) | 26.1 (4.4) | 25.6 (4.5) |
| Baseline CKD-EPI eGFR, mL/min/m ² (mean, SD) | 228.5 (1184.8) | 101.3 (109.1) |
| Total Cholesterol, mg/dL (mean, SD) | 186.8 (32.3) | 187.5 (37.8) |
| HDL Cholesterol, mg/dL (mean, SD) | 376.9 (1673.5) | 103.2 (221.0) |
| LDL Cholesterol, mg/dL (mean, SD) | 496.9 (1665.8) | 217.2 (282.1) |

Virological Efficacy



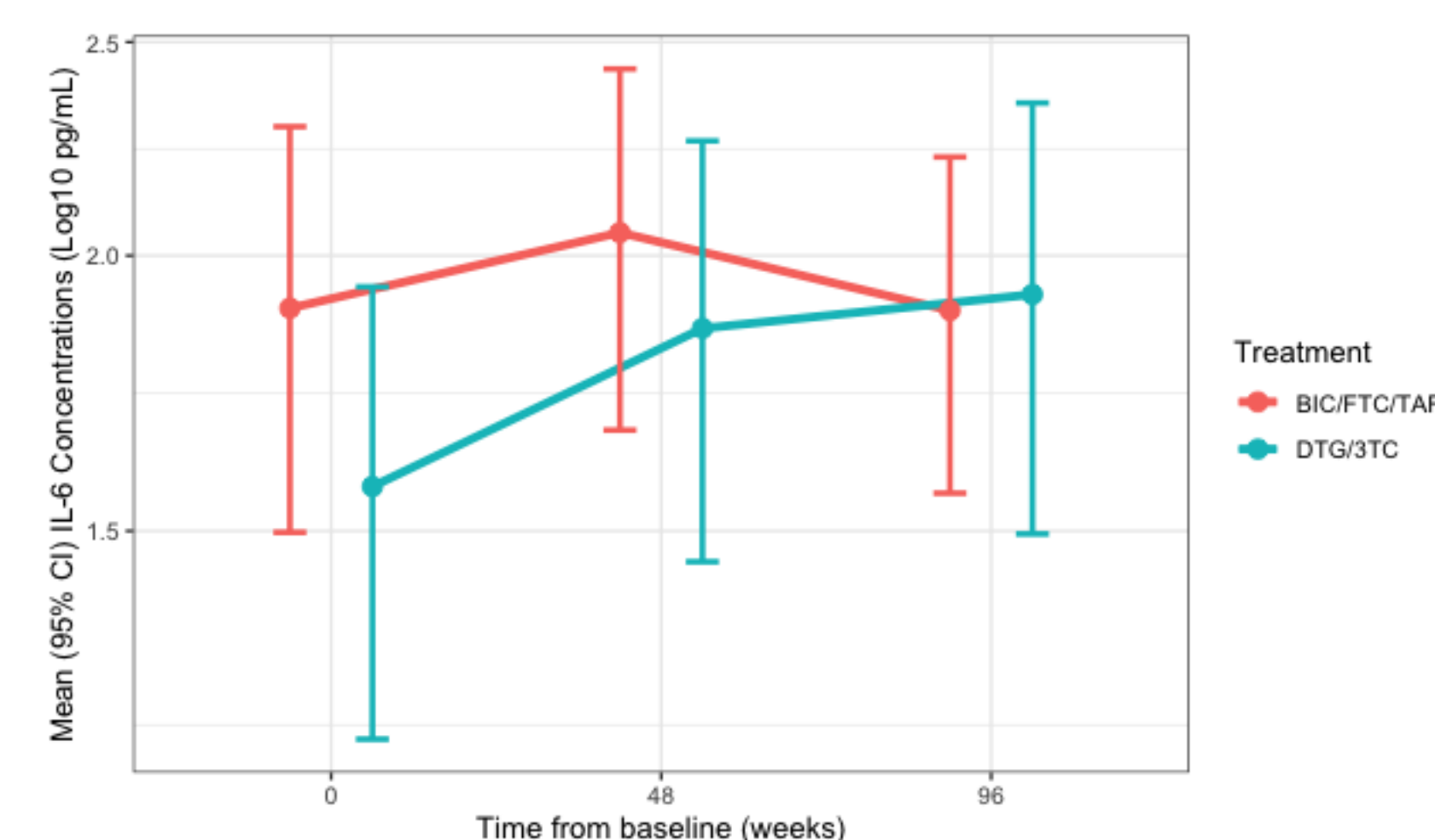
At 96-week, there were no differences in the rates of virological efficacy between DTG/3TC and BIC/FTC/TAF (Risk of VF > 50 copies/mL difference 0.01%, 95%CI -0.07 to 0.04)

Weight changes



Mean weight at baseline 77 kg and the overall mean weight change was 1.22 kg, (95% CI 0.31-2.13) with no difference between groups.

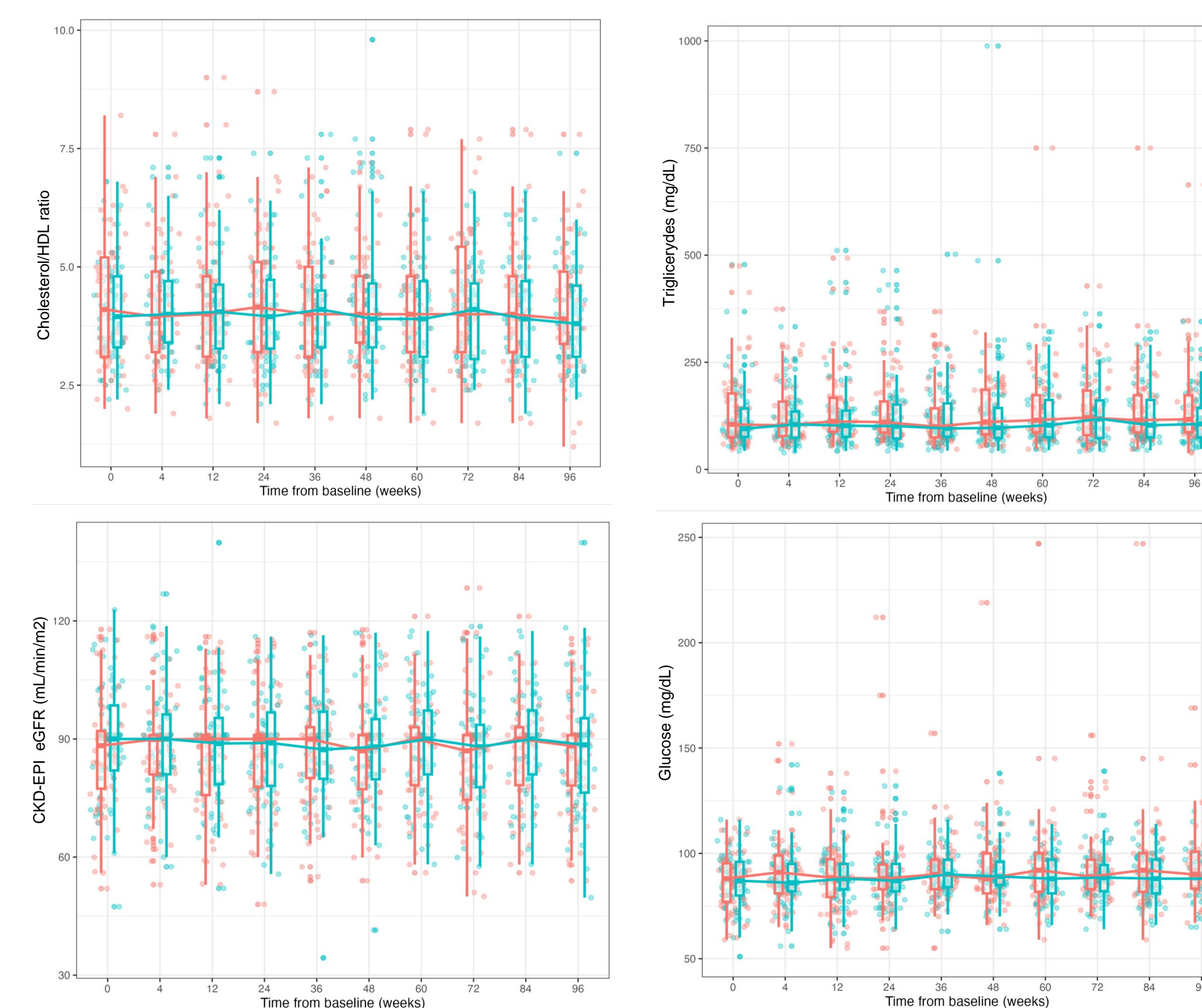
IL-6 Plasma Levels



Adjusted IL-6 changes were not significantly different (median fold change: DTG/3TC 2.0 [1.3-2.7]; BIC/FTC/TAF 1.2 [1.0-1.4], P = 0.106).

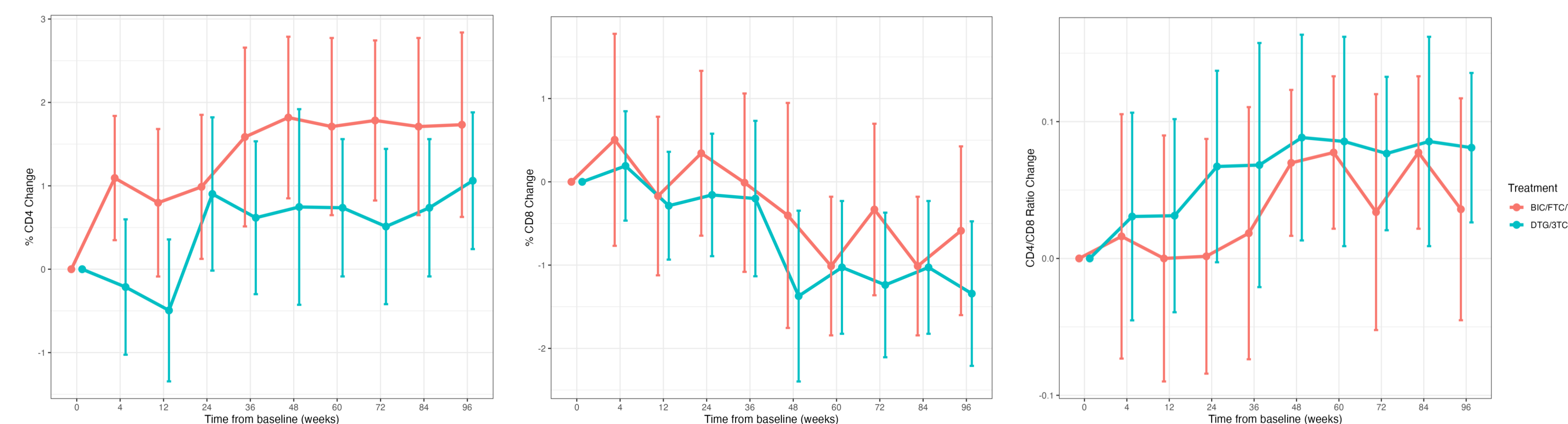
After 96 weeks, switching from DTG/3TC to B/F/TAF we found no significant effects on weight, cholesterol levels, and systemic inflammation (IL-6).

Renal and Metabolic Parameters in Plasma

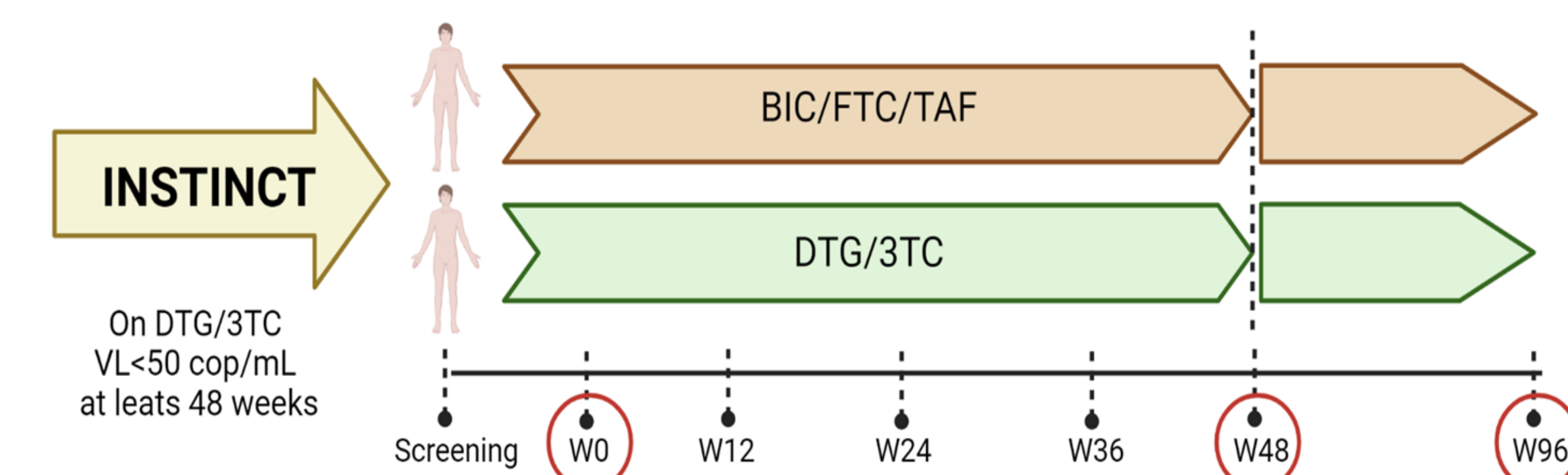


Changes in total cholesterol (mg/dL), triglycerides (mg/dL), glucose (mg/dL) and CKD-EPI eGFR (mL/min/m²) were similar in both groups.

CD4 cells, CD8 cells and CD4/CD8 ratio



At 96-week, there were no differences found in CD4 T cells, CD8 T cells, or CD4/CD8 ratio trajectories between groups.



CONCLUSIONS

Switching from DTG/3TC to BIC/FTC/TAF in virologically suppressed individuals showed comparable effects on weight, cholesterol levels, and systemic inflammation (IL-6) compared to continuing DTG/3TC. Ongoing analyses of additional inflammatory markers are needed to determine if either regimen may lead to differential effects on systemic inflammation.

ADDITIONAL KEY INFORMATION

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Author Contact Information: lauramp627@gmail.com

