Official journal of the Spanish Society of Chemotherapy

Highlights from 22nd International AIDS Conference

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INTRODUCTION

This event is one of the most prestigious conferences worldwide about a single global health issue, and it is a unique forum for the interaction of science, health promotion and human rights. The motto of this edition, "Breaking barriers, building bridges" refers to the need for AIDS programs to be accessible to all people living with HIV in any environment or any country in the world, without distinction and without stigmas. In the literature, studies that investigate the official content of congresses as an indicator of quality are few [1].

Of all the presentations made in this congress, we have selected those topics that can modify or influence during the daily clinical practice regarding novelties in antiretroviral treatment and prevention of HIV infection. In the first issue, we have highlighted the GEMINI and DIAMOND studies. In the second one, we have chosen the second part of the PARTNER study and the presentation of the real-life results of pre-exposure prophylaxis in France.

GEMINI-1 and -2: Dual-Therapy With DTG Plus 3TC Non-inferior to DTG Plus FTC/TDF in Treatment-Naive Patients at Week 48: multicenter, parallel-group, double-blind, randomized phase III non-inferiority trials

This study, published by Cahn et al [2], showed that the virologic efficacy of 2-drug regimen of dolutegravir (DTG) plus lamivudine (3TC) is non-inferior to 3-drug regimen of DTG plus emtricitabine (FTC)/tenofovir disoproxil fumarate (TDF) in treatment-naive patients at Week 48 (91% vs 93% with HIV-1 RNA < 50 copies/mL, respectively). These results are summarized in the figure 1.

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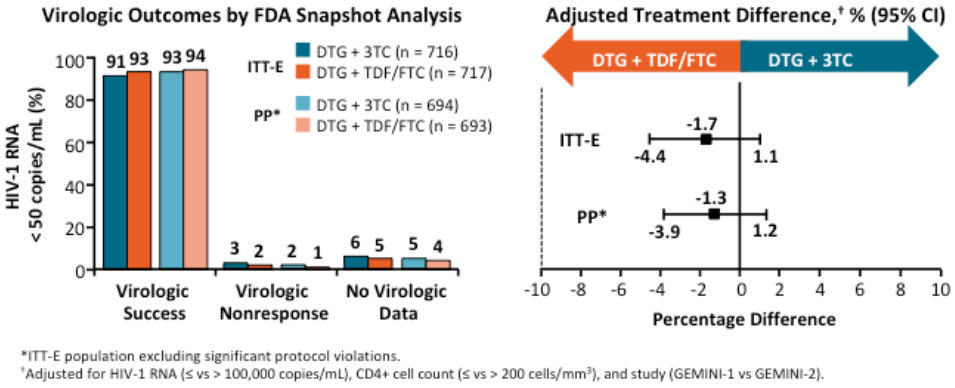
The two studies together had the participation of more than 1,400 patients, who were randomly distributed to receive one or another treatment. They had a viral load of less than 500,000 copies, although there was 2% of participants in each arm with more than 500,000 copies. Stratified results were presented according to viral load and CD4 levels. The main objective of both studies was to establish the percentage of participants with a viral load below 50 copies/ml at 48 weeks after starting the study.

The results showed a virologic efficacy generally consistent across subgroups stratified by baseline HIV-1 RNA. Efficacy of DTG plus 3TC was numerically lower in patients with low baseline CD4+ cell count in Snapshot analysis, but not in treatment-related discontinuation equals failure (TRDF) analysis. The numerical difference is evident in the subset of patients with lower baseline CD4+ cell counts who received dual therapy. Here, 79% of patients receiving dual therapy achieved virologic success compared with 93% of those receiving triple therapy. However, only 1 of these 13 dual therapy recipients without HIV-1 RNA < 50 copies/mL at Week 48 was a true virologic failure. It is also important consider that the percentage of patients with CD4<200 was only 9%.

On the other hand, low rates of confirmed virologic withdrawal through Week 48 (≤ 1% of patients per arm) were observed. No treatment-emergent INSTI mutations or NRTI mutations were seen among participants who met CVW (confirmed virologic failure) criteria.

Finally, the safety findings were comparable between arms and were observed significant differences in impact on renal and bone biomarkers in favour of DTG plus 3TC arm.

In conclusion, a dual therapy with 3TC + DTG in naive patients could be an alternative to a triple therapy based on TDF + FTC + DTG. Since the life expectancies in patients with HIV are extended, it is important to consider use of therapies that reduce cumulative drug exposure and toxicity.



*ITT-E population excluding significant protocol violations.
†Adjusted for HIV-1 RNA (≤ vs > 100,000 copies/mL), CD4+ cell count (≤ vs > 200 cells/mm³), and study (GEMINI-1 vs GEMINI-2).

Figure 1 Results of the GEMINI-1 and 2 studies: Virologic Response at week 48. Adapted from Cahn P et al [2]

Darunavir/Cobicistat/Emtricitabine/Tenofovir Alafenamide (D/C/F/TAF) in a Test-and-Treat Model of Care for HIV-1 Infection: Interim Analysis of the DIAMOND Study

Many studies have shown the benefits of the immediate initiation of antiretroviral treatment (without waiting the results of the resistance study or the viral loud and CD4 data) in patients newly diagnosed with HIV infection, especially in populations with low resources and difficult access to the health system. Benefits in retention of care, morbidity, mortality and time in obtaining virological suppression has been described.

DIAMOND [3] is an ongoing phase 3, single arm, open label, prospective multicenter study evaluating D/C/F/TAF in a rapid initiation model of care over 48 weeks. The main objectives of the study are: a) to asses the efficacy and safety of this regimen in the treatment of newly diagnosed HIV 1 infected naive patients; b) to asses the baseline viral resistance in the study population; and c) to evaluate the results of an HIV Treatment Satisfaction Questionnaire status version (HIVTSQs) at weeks 4 and 24. This is the first phase 3 trial of an STR in a rapid initiation model of care.

In this trial, a high proportion of patients using D/C/F/TAF achieved HIV-1 RNA <50 copies/ml, and 91% (99/109) of patients continued treatment through the interim analysis at week 24. It is a remarkable finding that no patients discontinued treatment due to receipt of baseline resistance reports, and no patients had confirmed virologic failure or discontinued due to lack of efficacy. On the other hand, at weeks 4 and 24, the results of the mean HIVTSQs score approached the maximum of 60, indicating a high level of satisfaction. These findings together with the efficacy, high barrier to resistance, safety profile and convenience of a single table regimen, suggest that D/C/F/TAF should be considered an adequate option of treatment in a quick initiation model of care.

Risk of HIV transmission through condomless sex in gay couples with supressive ART: The PARTNER2 study extended results in gay men

This prospective, observational, multicenter study assessed HIV transmission risk in serodifferent men who have sex with men (MSM) couples reporting condomless sex when HIV-positive partner virologically suppressed [4-6]. PARTNER2 followed MSM from 2014-2018 (included some MSM couples from PARTNER1). Ninety seventy-two couples MSM were recruited, of whom 783 contributed 1.596 eligible couple-years of follow up (CYFU). The main finding of the study was that no within-couple HIV transmissions were observed among 783 serodifferent MSM couples who reported condomless (CL) sex while the HIV-positive partner was receiving suppressive ART. Nevertheless, 15 HIV-negative men acquired HIV infection during follow-up, although none of these infections was phylogenetically linked to the HIV-positive partner. During almost 77,000 within-couple CL sex acts, upper 95% CI for rate of transmission between MSM was 0.23/100 CYFU. This data shows, with more statistical certainty than in the PARTNER1 study, that the risk of HIV transmission from an HIV-positive partner who has undetectable HIV-1 RNA is effectively zero.

Incidence of HIV-Infection in the AVRS Prevenir Study in the Paris Region with daily or On Demand PrEP with TDF/FTC

Molina et al. [7] showed the real-life data of the PrEP (pre-exposure prophylaxis) application in Paris. PREVENIR is a multicenter, open-label, prospective cohort study in Paris that includes HIV-negative adults at high risk of HIV infection with inconsistent condom use. At the beginning of the study, participants choose between daily or on demand prophylaxis, being able to change their arm during the course of the same. A total of 1,594 participants were enrolled, 98% MSM. The primary endpoint was a ≥ 15% reduction in new HIV diagnoses among MSM in Paris vs rate reported by National Surveillance network in 2016. Secondary endpoints were to analyse PrEP adherence, sexual behaviour, and safety. At an average follow-up of 7 months, the incidence of HIV in both groups

was 0, and it was estimated that 85 HIV infections had been prevented. Regarding safety, 11 participants were diagnosed of viral hepatitis, including 7 cases of hepatitis C. Among the groups, the incidence of the first viral hepatitis was 1.1/100 patient-years for daily PrEP and 1.2/100 patients-year for PrEP on demand. In the adherence analysis, it was observed a high rate of correct PrEP use in daily and on-demand groups, being both of 96%. In terms of sexual behaviour, daily PrEP users reported higher numbers of condomless sex acts, and sexual partners at baseline.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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