Dettaglio abstract

N. pgm: P 4

Title: Probability of starting 2DR vs 3DR regimens in ART-naïve and ART-experienced PLWH before and after the COVID-19 pandemic

Presentation type: Poster

Session/Topic
Antiretroviral therapy
Antiretroviral therapy

Authors: A. Vergori[1], N. Gianotti[2], A. Tavelli[3], C. Tincati[4], A. Giacomelli[5], E. Matteini[6], G. Lapadula[7], F. Bai[4], L. Sarmati[8], A. d'Arminio Monforte[3], A. Antinori[1], A. Cozzi-Lepri[9], on behalf of the ICONA Foundation Study Group

Affiliation: [1]HIV/AIDS Unit, National Institute for Infectious Diseases L. Spallanzani, IRCCS, Rome, Italy, Roma, Italy, [2]Infectious Diseases, IRCCS San Raffaele Scientific Institute, Milano, Italy, [3]Icona Foundation, Milano, Italy, [4]Clinica di Malattie Infettive, Dipartimento di Scienze della Salute, ASST Santi Paolo e Carlo-Presidio Ospedaliero San Paolo, Università degli Studi di Milano, Milano, Italy, [5]III Infectious Disease Unit, ASST-Fatebenefratelli Sacco, Milano, Italy, [6]Dipartimento di Sicurezza e Bioetica - Università Cattolica del Sacro Cuore, Roma, Italy, [7]IRCCS Fondazione San Gerardo, Monza, Università di Milano Bicocca, Milano, Italy, [8]Clinical Infectious Diseases, Department of System Medicine, Tor Vergata University, Roma, Italy, [9]Centre for Clinical Research, Epidemiology, Modelling and Evaluation (CREME), Institute for Global Health, University College London, London, UK

Abstract
Background: COVID19 pandemic temporarily disrupted and reduced HIV services. In May 2020 BHIVA issued an interim pragmatic statement to recommend the use of B/F/TAF in all circumstances, unless contraindicated. Whether lockdown and interim guidelines statements impacted ART prescriptions has not been evaluated.
Material and Methods: PLWH enrolled in the ICONA cohort (HBsAg-), ART-naïve who started their first-line ART between Jan2019-Dec2022 and ART-experienced who started new ART with a HIV RNA <50 cps/mL in the period Jan2016-Dec2022. The endpoint of the analysis was the proportion of PLWH starting/switching to a dual (2DR) or a triple (3DR) ART regimen. Participants' characteristics at time of starting/switching by calendar period were compared by chi-square and/or Kruskal-Wallis tests. A logistic regression (LR) model was used to evaluate the association between calendar period of starting/switching and type of regimen (2DR vs. 3DR) after adjusting for sex and age (line of therapy in the ART-experienced group). Moreover, we investigated whether the effect of calendar period on ART prescriptions varied by use of INSTI, sex and CD4 count at initiation/switch.
Results: Of 2,483 ART-naïve included (N=871 in 2019, 522 in 2020 and 1,090 in 2021/22) 17% were female, had a median age of 40 (IQR 32, 51) years, 66% had a CD4 count >200/mm3 and 78% a HIVRNA <100,000 cps/mL; 9% started a 2DR in 2019, 18% in 2020, 13% in 2021,10% in 2022. Using 2020 as the comparator (the lockdown year), odds ratio (OR) from fitting a LR showed a reduced probability of prescribing 2DR both before and after 2020 (Fig1A). Of 12,659 ART-experienced (N=7266 in 2016/18, 3389 in 2019/20 and 2004 in 2021/22) 20% were female, had a median age of 47 (38,55) years, 3% had CD4 <200/mm3 at switch. 24% switched to a 2DR in 2016, 10% in 2017, 13% in 2018, 25% in 2019, 37% in 2020, 61% in 2021, 64% in 2022. The estimated ORs showed an inverse trend of 2DR prescription before and after 2020, with a >3- fold higher probability to be switched to 2DR than 3DR in recent years (2021-2022) (Fig1B). Results were similar in the analysis stratified by sex and CD4 count at time of switch (interaction p=0.75). After restricting the analysis to INSTI-sparing regimens, we estimated a probability of 22.3% in 2016 followed by a drop to approximately 8-9% of switch to 2DR which remained stable over time [aOR 1.63 (1.18, 2.25) in 2016/2018 vs. 0.99 (0.60, 1.63); in 2021/22, interaction p<0.0001].
Conclusions: In our cohort of ART-naive PLWH we did not detect reduced odds of initiating 2DR vs 3DR

during 2020, which however occurred over the following years; our analysis cannot clarify whether this reflects a true pragmatic change in clinical practice or was due to difficulties in resuming full HIV services. In contrast, in ART-experienced PLWH, we observed an increasing frequency of 2DR vs 3DR regimens initiation over time, especially INSTI-based in recent years.

Figure 1 Odds ratios of starting a 2DR vs 3DR regimen from fitting a logistic regression model in **A)** ART-naïve and **B)** ART-experienced participants