Poster P083

Incidence of comorbidities over 18 months with BIC/FTC/TAF, DTG/ABC/3TC or DTG/3TC in real life settings in the ANRS-CO3 - AquiVIH-NA cohort.

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BACKGROUND

- Bictegravir (BIC) and dolutegravir (DTG) are highly potent integrase strand-transfer inhibitor (InSTI) with high genetic barriers to resistance co-formulated in triple regimen (BIC/FTC/TAF and DTG/3TC/ABC) in dual regimen (DTG/3TC) for once-daily use for people living with HIV (PLWH).
- These regimens are currently widely used in switch settings and have shown high rates of efficacy and good safety profiles in randomized clinical trials.
- However, the incidence of comorbidities with these regimens is underreported in the aging population in real life settings.

METHODS

- The ANRS-CO3-AquiVIH-NA cohort is an open, prospective hospital-based cohort of HIV-1-infected adults (≥18 years old) in care in 15 hospitals in the Nouvelle Aquitaine region of south-western France.
- The cohort collects epidemiological, clinical, biological and therapeutic data from the medical records of PLWH and who have signed informed consent since 1987.
- We performed a retrospective analysis and were included individuals switching to BIC/FTC/TAF, DTG/ABC/3TC or DTG/3TC between 2018/01/01 and 2021/12/31 and virologically suppressed (VS) with HIV plasma RNA <50 cp/ml, had an available CD4 count at baseline, and who completed 18 months of follow-up.
- **We analyzed the baseline characteristics of participants switching to BIC/FTC/TAF, DTG/3TC/ABC and DTG/3TC and observed the incidence of comorbidities with these regimens during the follow-up period.**

RESULTS

A total of 1862 individuals were included in the analysis:
- 1179 on BIC/FTC/TAF
- 192 on DTG/ABC/3TC
- 491 on DTG/3TC.

At baseline (table 1), when compared to others strategies:

Participants switching to BFTAF had numerically:
- a lower median Nadir of CD4 count,
- more HBV co-infection,
- a higher median prior exposition to TDF,
- more uncontrolled hypertension,
- less comorbidities, including DM, CKD and cancers,
- less co-prescriptions of
  - statins,
  - antidiabetics,
  - antihypertensives.

Participants switching to DTG/3TC/ABC had numerically:
- a lower median CD4 count,
- more in Stage C (AIDS) of HIV infection,
- less uncontrolled hypertension,
- more peripheral vascular events, DM and cancers.

Participants switching to DTG/3TC had numerically:
- a higher median CD4 count,
- less Stage C (AIDS) of HIV infection,
- less current smoking and less regular alcohol intake,
- more CKD.

Table 1. Baseline characteristics of participants switching to BIC or DTG regimens

Characteristics, n (%)	BIC/FTC/TAF n=1179	Percent or IQR	DTG/3TC/ABC n=192	Percent or IQR	DTG/3TC n=491	100%
Age (years), Median (IQR)	53.1	(45.2;60.1)	54.6	(46.0;63.6)	54.5	(44.6;62.2)
Female sex	311	(26.4)	64	(33.3)	126	(25.7)
Origin of birth						
France	921	(78.1)	149	(77.6)	406	(82.7)
Sub-Saharian Africa	150	(12.7)	27	(14.1)	56	(11.4)
Time from HIV diagnose (years), Median (IQR)	18.0	(8.8;26.3)	16.3	(8.2;23.7)	16.4	(6.8;25.0)
Stage C (AIDS) of infection	240	(20.4)	42	**(21.9)**	78	**(15.9)**
CD4 count (cells/mm3), Median (IQR)	691.0	(491.0;910.0)	669.0	(492.0;898.5)	**713.0**	(512.0;946.0)
CD4 Nadir (cells/mm3), Median (IQR)	**280.0**	(140.0;447.0)	324.5	(155.0;496.5)	300.0	(156.0;460.0)
CD4/CD8 Ratio, Median (IQR)	0.9	(0.7;1.4)	1.0	(0.6;1.4)	1.0	(0.7;1.4)
Number of previous ART, Median (IQR)	5.0	(3.0;8.0)	4.0	(2.0;7.0)	4.0	(2.0;8.0)
Prior TDF exposure (months), Median (IQR)	**80.0**	(25.2;125.1)	37.4	(1.9;103.4)	44.1	(1.5;98.6)
Class of previous treatment, n (%)						
2 NRTIs + 1 PI/r	173	(14.7)	51	(26.6)	12	(2.4)
2 NRTIs + 1 NNRTI	181	(15.4)	41	(21.4)	75	(15.3)
2 NRTIs + II	222	(18.8)	38	(19.8)	272	(55.4)
2 NRTIs + II + 1 Other	455	(38.6)	20	(10.4)	48	(9.8)
Others	121	(10.3)	24	(12.5)	72	(14.7)
No treatment (immediately before the switch)	27	(2.3)	18	(9.4)	12	2.4)
BMI (kg.m^2)						
Median (IQR)	24.5	(21.7;27.5)	24.3	(21.7;27.2)	24.2	(22.1;27.0)
Lean (<18.5)	53	(5.1)	6	(3.6)	14	(3.2)
Normal weight (18.5-24.9)	516	(50.0)	90	(53.3)	245	(55.9)
Overweight (25-29.9)	325	(31.5)	48	(28.4)	131	(29.9)
Obesity (≥30)	137	(13.3)	25	(14.8)	48	(11.0)
Current tobacco smoker	393	(35.6)	62	(34.4)	134	**(28.9)**
Regular alcohol intake	134	(14.3)	23	(15.3)	45	**(11.2)**
HCV co-infection (anti-HCV+ or RNA+)	203	(20.5)	35	(20.5)	63	(17.4)
HBV co-infection (HbsAg+ or DNA+)	64	**(6.8)**	5	(3.2)	13	(3.8)
Number of comorbidities						
0	248	**(28.5)**	38	(26.4)	81	(24.5)
1	305	**(35.1)**	38	(26.4)	104	(31.4)
2	172	(19.8)	38	(26.4)	74	(22.4)
≥3	145	(16.7)	30	(20.9)	72	(21.8)
Co-prescription of statins	179	**(15.2)**	40	(20.8)	88	(17.9)
Co-prescription of antidiabetics	56	**(4.7)**	16	(8.3)	32	(6.5)
Co-prescription of antihypertensives	239	**(20.3)**	54	(28.1)	130	(26.5)
CKD (diagnose/2 consecutive eGFR<60)	144	**(14.7)**	37	(23.1)	92	**(24.5)**
CV event (diagnose/bypass/angioplasty/endarterectomy)	148	(12.6)	28	(14.6)	66	(13.4)
MI (diagnose/bypass/angioplasty)	80	(6.8)	13	(6.8)	35	(7.1)
CNS vascular event (diagnosis)	45	(3.8)	5	(2.6)	17	(3.5)
Peripheral vascular event (diagnose/endarterectomy)	67	(5.7)	19	**(9.9)**	34	(6.9)
DM (diagnose/high blood glucose/anti-diabetics use)	139	**(15.3)**	29	**(19.2)**	64	(18.2)
Hypertension (diagnose)	536	(57.0)	92	(59.0)	218	(60.1)
Uncontrolled hypertension	192	**(19.4)**	22	**(13.4)**	57	(15.3)
Osteoporosis (diagnose or bone T-score ≤-2.5)	92	(7.8)	20	(10.4)	42	(8.6)
Cancer (diagnose)	160	**(13.6)**	37	**(19.3)**	81	(16.5)

Table 2. Description of the incidence of comorbidities in VS participants during an 18 months follow-up.

	B/F/TAF	N=1179	DTG/ABC/3TC	N=192	DTG/3TC	N=491
	Incidence density per 1000 YP	CI 95%	Incidence density per 1000 YP	CI 95%	Incidence density per 1000 YP	CI 95%
Chronic kidney disease (diagnose or 2 consecutive eGFR<60 measurements)	2.8	[1.1; 7.5]	16.8	[5.4; 52.1]	5.5	[1.8; 17.1]
Diabetes (DM) (diagnosed or confirmed high blood sugar or anti-diabetic comedication)	18.4	[12.5; 27.0]	16.3	[5.3; 50.6]	19.1	[10.6; 34.5]
Cardiovascular event (diagnose or treatment by bypass surgery/angioplasty/endarterectomy)	10.0	[5.9; 16.9]	16.1	[5.2; 49.8]	21.1	[12.0 ; 37.1]
Myocardial infarction (diagnose or treatment by bypass surgery or angioplasty)	4.0	[1.8; 8.9]	14.6	[4.7; 45.1]	13.0	[6.5 ; 26.0]
CNS vascular event (diagnose)	4.5	[2.2; 9.5]	3.4	[1.4; 8.2]	6.2	[2.3 ; 16.6]
Peripheral vascular event (diagnose or treatment by endarterectomy)	4.6	[2.2; 9.7]	5.1	[0.7 35.9]	8.1	[3.4 ; 19.5]
Hypertension (two consecutive TAS = 140 mmHg and/or TAD = 90 mmHg or taking a hypertensive co-medication)	43.8	[31.8; 60.5]	101.1	[54.4; 188.0]	25.2	[13.1 ; 48.5]
Osteoporosis (diagnose or bone T-score ≤ -2.5)	7.4	[4.1; 13.4]	10.0	[2.5; 39.9]	6.5	[2.5 ; 17.4]
Cancer (diagnose)	9.4	[5.4; 16.1.]	5.5	[0.8; 38.9]	10.8	[4.8 ; 23.9]

CONCLUSIONS

At baseline, we found more individuals with high cardiovascular risk profiles DTG regimen than those treated with BIC/FTC/TAF regimen.

After 18 months of follow-up, we observed:

- **similar incidence rates of new diagnoses of diabetes, CNS and peripheral vascular event, osteoporosis and cancer with BIC/FTC/TAF, DTG/3TC/ABC and DTG/3TC;**
- **a trend for higher incidence of hypertension and eGFR <60ml/min with DTG/ABC/3TC, and higher incidence of CV events including MI with the DTG regimens.**

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