Risk Factors for HIV Infection Among MSM in the ANRS IPERGAY PrEP Trial

POSTER 846

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Background

In the ANRS IPERGAY trial, on demand pre-exposure prophylaxis (PrEP) has been demonstrated to be highly effective in preventing HIV infection among men who have sex with men (MSM) with a 86% relative reduction of HIV incidence (95%CI [40-98]) in the TDF/FTC group as compared to the placebo group.
We aimed to identify MSM who would benefit the most from PrEP by assessing baseline risk factors for HIV infection in this population.

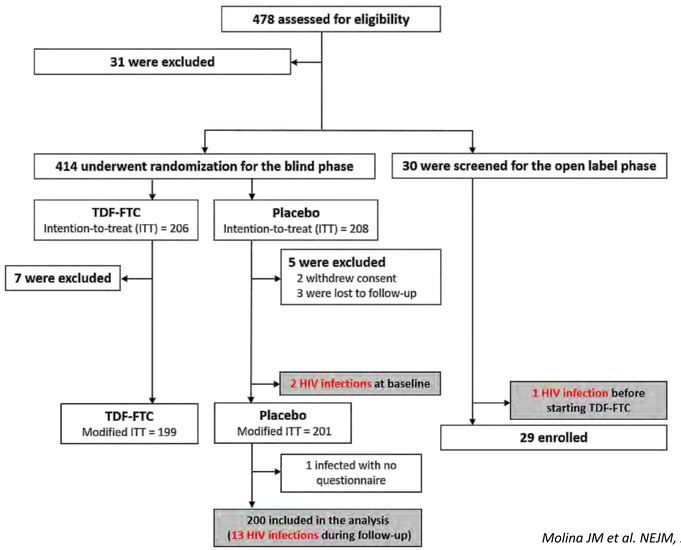
Methods

Participants were included in the ANRS IPERGAY trial if they were male or transgender, 18 years or older and at high risk for HIV infection, i.e. they had unprotected anal sex with at least two male partners in past 6 months.

For this analysis, we considered participants who completed the online questionnaire at baseline and who have not started PrEP yet, i.e. :

- Participants enrolled in the placebo arm for the blind phase of the trial
- Participants who got infected between W-4 and baseline

Figure 1. Flow Chart of Participants selected for this sub study of the ANRS IPERGAY Trial



Molina JM et al. NEJM, 2015
Molina JM et al. Lancet HIV, 2017

Results

- 203 MSM included, median follow-up: 9 months (IQR: 5-20)
- Median age: 34 years (IQR: 29-42)
- Median number of sexual partners in prior 2 months : 8 (IQR: 5-17)
- Median number of episodes of sexual intercourse in prior 4 weeks : 10 (IQR: 5-16)
- 28% had an STI at first screening (gonorrhea, chlamydia and/or syphilis)

Results (continued)

Overall, 16 HIV infections occurred for 212.4 Person-Years (Incidence Rate : 7.5 per 100 Person-Years; 95%CI [4.3-12.2]).

Risk Factors for HIV Infection (tables 1, 2, 3) : The number of sexual partners in prior 2 months (≥10 vs. <10) and the number of condomless receptive anal sex episodes in prior 12 months (≥6 vs. <6) were associated with a significantly increased risk for HIV infection (RR: 3.1; 95%CI [1.1-9.9] and RR: 3.3; 95%CI [1.2-10.2] respectively), whereas those with mostly insertive sexual practices versus mostly receptive were at lower risk (RR: 0.1; 95%CI: 0.0-0.6).
A diagnosis of bacterial STI at baseline was not significantly associated with an increased risk.
Participants who met casual partners in backrooms/sex-clubs or in private sex-parties were also at increased risk for HIV infection (RR: 3.9; 95%CI [1.1-26.8] and RR: 2.9; 95%CI [1.1-9.5] respectively).
The use of ketamine, MDMA, GHB/GBL or drugs for erectile dysfunction in prior 12 months was associated with a significantly increased risk for HIV infection.

We found no association with age, education level, having a steady partner, or tobacco, alcohol and cannabis consumption in prior 12 months, but being enrolled in Paris was associated with a significantly increased risk for HIV infection (RR: 4.1; 95%CI [1.1-28.3]).

Table 1. Risk Factors for HIV Infection : Sexual Behavior and Sexually Transmitted Infections at Baseline

	No. HIV infections/ Person-Years	HIV Incidence % Person-Years [95%CI]	Rate Ratio [95%CI]	P Value
< 10 sexual partners past 2 months	5/124.1	4.0 [1.3-9.4]	Ref.	0.03
≥ 10 partners	11/87.6	12.6 [6.3-22.5]	3.1 [1.1-9.9]	
< 6 episodes of condomless receptive anal sex past 12 months	6/142.3	4.2 [1.5-9.2]	Ref.	0.02
≥ 6 episodes	9/63.4	14.2 [6.5-27.0]	3.3 [1.2-10.2]	
Mostly receptive sexual practices	15/127.0	11.8 [6.6-19.5]	Ref.	0.004
Mostly insertive	1/84.7	1.2 [0.0-6.6]	0.1 [0.0-0.6]	
No STI° diagnosed at screening	11/151.7	7.3 [3.6-13.0]	Ref.	0.80
At least one STI	5/60.8	8.2 [2.7-19.2]	1.2 [0.4-3.2]	

° *Sexually Transmitted Infection: gonorrhea, chlamydia and/or syphilis*

Table 2. Risk Factors for HIV Infection : Meeting Places for Casual Partners in Prior 6 Months

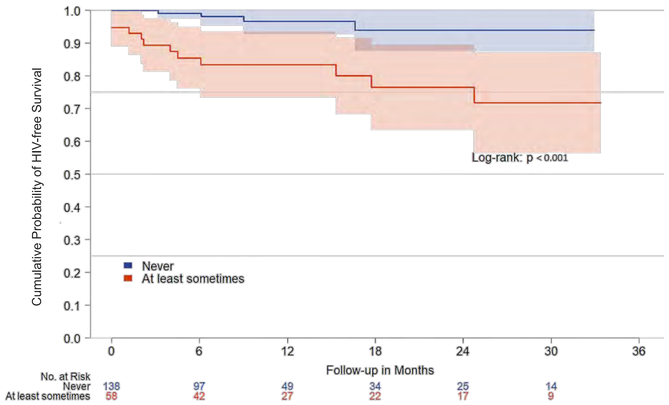
	No. HIV infections/ Person-Years	HIV Incidence % Person-Years [95%CI]	Rate Ratio [95%CI]	P Value
Never met in backrooms or sex-clubs	2/77.5	2.6 [0.3-9.3]	Ref.	0.04
At least sometimes	14/131.4	10.7 [5.8-17.9]	3.9 [1.1-26.8]	
Never met in private sex-parties	5/119.4	4.2 [1.4-9.8]	Ref.	0.04
At least sometimes	11/88.6	12.4 [6.2-22.2]	2.9 [1.1-9.5]	
Met sometimes online or using dating apps	1/27.5	3.6 [0.1-20.3]	Ref.	0.47
Regularly	15/183.5	8.2 [4.6-13.5]	2.0 [0.4-47.8]	

Results (continued)

Table 3. Risk Factors for HIV Infection : Use of Psychoactive Substances in Prior 12 Months

	No. HIV infections/ Person-Years	HIV Incidence % Person-Years [95%CI]	Rate Ratio [95%CI]	P Value
Never used GHB/GBL	4/137.9	2.9 [0.8-7.4]	Ref.	< 0.001
At least sometimes	12/68.3	17.6 [9.1-30.7]	5.9 [2.0-21.7]	
Never used MDMA	7/149.3	4.7 [1.9-9.7]	Ref.	0.03
At least sometimes	9/62.4	14.4 [6.6-27.4]	3.1 [1.1-8.7]	
Never used cocaine	7/139.2	5.0 [2.0-10.4]	Ref.	0.07
At least sometimes	9/71.4	12.6 [5.8-23.9]	2.5 [0.9-7.1]	
Never used Speed	10/171.7	5.8 [2.8-10.7]	Ref.	0.15
At least sometimes	5/36.9	13.5 [4.4-31.6]	2.4 [0.7-6.8]	
Never used erectile drugs	6/142.0	4.2 [1.6-9.2]	Ref.	0.02
At least sometimes	10/69.7	14.3 [6.9-26.4]	3.4 [1.2-10.1]	

Figure 2. Use of GHB/GBL in prior 12 months. Kaplan-Meier Estimates of the Probability of HIV-free Survival



Conclusion

MSM who have frequent condomless receptive anal sex, multiple partners, who met them in backrooms/sex-clubs or in private sex-parties, or use drugs should be particularly targeted in prevention programs in particular if they live in an area with a high prevalence of HIV infection.

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