SARS-COV-2 VACCINATION: IMPACT ON HIV-1 RNA LEVELS AND ANTIBODY RESPONSE AMONG PLWH

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BACKGROUND

HIV infection → higher risk to develop a more severe clinical course of COVID-19 disease[1]

COVAC HIV

Observational, open-label study at the HIV/AIDS Unit of Geneva University Hospital

Primary outcome

Humoral response to SARS-CoV-2 mRNA vaccine (over 6 months after two doses and 1 month after the booster dose)

Secondary outcomes

- HIV-1 RNA levels measured one month after each vaccine dose
- Vaccine-related side effects

METHODS

Population's sample

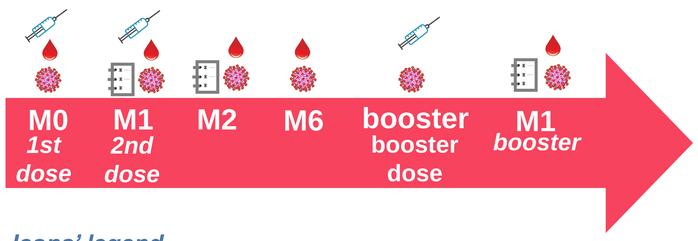
131 PLWH

49 healthy volunteers

Type of vaccine

	PLWH	healthy V
BNT 162b2	40.5%	
mRNA 1273	59.5%	100%

Protocol timeline



Icons' legend

vaccination

anti SARS-CoV-2 S1 RBD antibodies[1]

anti SARS-CoV-2 N antibodies[1]

HIV-RNA[2]

self-reported vaccine side-effects

COVID-19 history

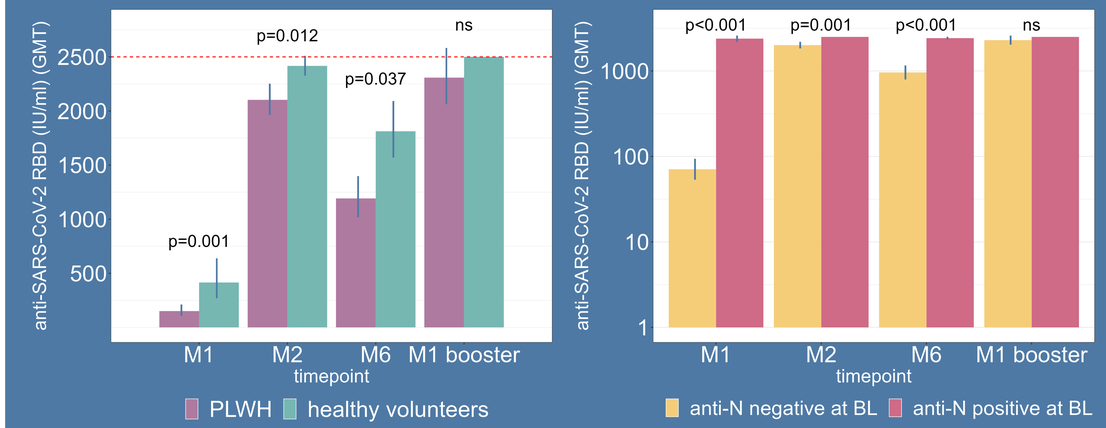
[1]Roche Elecsys, Roche Diagnostic, [2]COBAS 6800, Roche Diagnostic

Methods' appendix

- Results for anti-RBD were normalized using WHO standard (NIBSC, 20/136) and reported in IU/ml. Cut-off for positivity was set-up at > 1.1 IU/ml for anti-RBD and at index > 1.1 for anti-N.
- Antibodies are reported as Geometric Mean Titers (GMT)
- Group comparisons of continuous variables were conducted using Mann-Whitney U tests.

RESULTS

Quantification of anti-RBD Ig (GMT) at each time point

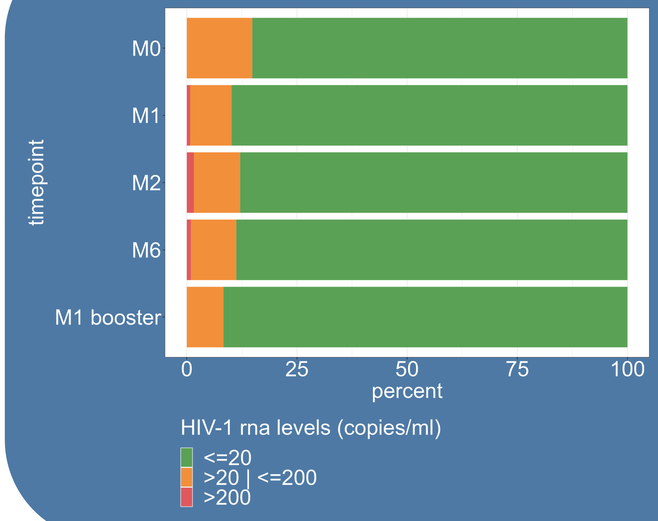


Satisfactory anti-RBD antibodies titers up to 6 months after two doses of SARS-CoV-2 mRNA vaccine in PLWH.

Higher antibodies titers in healthy volunteers.

GMT were significantly higher in patients (PLWH) with positive anti-N at baseline

HIV-RNA at each time point (various cut-off)



No significant changes in HIV RNA before and after SARS COV-2 vaccine administration (mRNA platform).

BASELINE CHARACTERISTICS

131 PLWH

54 years old (median)
70.2% male

Baseline CD4 (median):
602 cells/µl – 35%

Nadir CD4 (median)
223 cells/µl – 21%

49 healthy volunteers

30% years old (median)
60.2% male

SAFETY

No serious adverse events (SAE) were reported

CONCLUSIONS

Among PLWH routinely and regularly followed-up, participants elicited a good anti-RBD antibodies response after the first two doses and the booster of mRNA, with only a minor impact on RNA HIV-1 levels, and no safety concerns.

CONTACTS

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REFERENCES

1. WHO. WHO Warns That HIV Infection Increases Risk of Severe and Critical COVID-19 (2021). Available at: https://www.who.int/news/item/15-07-2021-who-warns-that-hiv-infection-increases-risk-of-severe-and-critical-covid-19