

Conclusion. All subgroups had high rates of seroconversion, with some small differences in likelihood of seroconversion between subgroups. These data demonstrate the excellent immunogenicity of COVID-19 vaccines in real-world settings in the US.

Disclosures. All Authors: No reported disclosures

589. Oral Tablet Vaccination Induces Heightened Cross-Reactive CD8 T Cell Responses to SARS-CoV-2 in Humans

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Session: P-25. COVID-19 Vaccines

Background. Covid-19 has accelerated global demand for easily distributed vaccines. Furthermore, as variant SARS-CoV-2 strains that circumvent antibody responses emerge, cross-protective vaccines provide substantial public health benefits. Vaxart is developing a shelf stable oral tablet vaccine that incorporates both the spike (S) and the more conserved nucleocapsid (N) proteins. Vaxart's vaccine platform uses a non-replicating adenovirus and a TLR3 agonist as an adjuvant.

Methods. In an open-label phase 1 clinical study, 35 healthy subjects received either a single low (1x10¹⁰ IU; n=15) or high (5x10¹⁰ IU; n=15) dose of the vaccine candidate VXA-CoV2-1 with a small cohort receiving 2 low doses. PBMCs were taken at pre- and 7 days post-vaccination and restimulated with S and N peptides from SARS-CoV-2 or the 4 human endemic coronaviruses (HCoV). Cells were stained for CD4/CD8/CD107a (surface) and IFN γ /TNF α (intracellular). Subjects that received an intramuscular (i.m.) mRNA vaccine had PBMCs taken at the same timepoints and were compared in the same assay.

Results. The study's results indicate that the VXA-CoV2-1 tablet was well tolerated. The majority of subjects had an increase in S-specific anti-viral CD8⁺ T cell responses. 19/26 (73%) subjects had a measurable CD8⁺ T cell response on day 8 above baseline, on average 1.5-4.6%. In a comparator experiment with the 2 SARS-CoV-2 i.m. mRNA vaccines, VXA-CoV2-1 outperformed other vaccine candidates with a >3.5-fold increase in S specific antiviral CD8 T cell responses. T cell responses specific to the 4 endemic HCoV were increased by 0.6% in subjects given VXA-CoV2-1.

Conclusion. Here we describe a room temperature stable tablet that induces SARS-CoV-2 S specific CD8 T cells of high magnitude after one dose in humans. Overall, the level of antiviral SARS-CoV-2 specific T cells, particularly IFN γ -producing CD8s, induced following oral immunization with VXA-CoV2-1 are of higher magnitude than the mRNA vaccines currently in use against COVID-19. T cell responses against 4 endemic HCoV were also induced. Because T cells may be important in protecting against death and severe infection, these results suggest that VXA-CoV2-1 could be cross-protective against a wide array of emerging pandemic coronaviruses.

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590. Persisting COVID-19 vaccination hesitancy in the South Bronx

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Session: P-25. COVID-19 Vaccines

Background. Minority groups have the lowest vaccination rates when compared to the overall population. We aim to study the attitudes and perceptions of COVID-19 vaccination, about six months after vaccine rollout in the South Bronx.

Methods. Cross-sectional anonymized online survey evaluating knowledge, attitude and perception about COVID-19 vaccination using SurveyMonkey™ was conducted in South Bronx community from April - June 2021.

Results. Of the 281 participants, 67% were Latinx and 16% were African American (AA); 69% (195) were fully vaccinated (FV) and 31% (86) with vaccine hesitancy (VH). The common reasons for hesitancy were "concerns about side effects" (38%), "vaccine is not safe" (27%) and "vaccine was approved too fast" (26%) (p< .001). VH were more likely to rely online/mobile apps (30%) and friends and family (23%) as compared to FV. VH were more likely to be AA, younger age (< 35 yrs), high school or lower education, single, unemployed, without comorbidities, not current on other eligible vaccines, and did not believe "vaccine is necessary to end the pandemic." Majority of participants from both cohorts trusted their primary care providers. Mistrust with healthcare and pharmaceutical companies was higher in VH (p=0.009). Both groups preferred to continue wearing mask and practice social distancing despite vaccination status.

Table 1a: COVID-19 Vaccine survey results
Did you get the COVID-19 Vaccine?

Yes	195 (69.4%)
No	86 (30.6%)

If Yes, which COVID-19 Vaccine did you get:

Pfizer Vaccine (BioNTech)	110 (56.4%)
Moderna Vaccine (NIAID)	61 (31.3%)
Johnson & Johnson Vaccine	12 (6.2%)

If Yes, Why did you want to get the vaccine?

To protect myself and my family	112 (57.4%)
I want to help control the spread of COVID-19	78 (40.0%)
I don't want to become sick with COVID-19	68 (34.9%)
Get back to a normal life	62 (31.8%)
Would like to travel safely without fear	54 (27.7%)
I am an essential worker	51 (26.2%)
I will be safer at work	48 (24.6%)
I am at risk for getting COVID-19 because of my age and/or other medical issues	42 (21.5%)
I heard on the news or social media that it is recommended	25 (12.8%)
I live with or take care of someone who is at risk (a person who is 65 years or older and/or who has medical issues that make them more likely to become sick)	24 (12.3%)
My doctor (or person who provides medical care) suggested getting the vaccine	18 (9.2%)
My employer recommended getting the vaccine	17 (8.7%)
None of the above	12 (6.2%)

If No, Here are some things people worry about when deciding not to take the vaccine. Which did you think about?

I am concerned about side effects	33 (38.4%)
I do not believe the vaccine is safe	23 (26.7%)
I am concerned that the vaccine was approved too fast and that it may not be safe	22 (25.6%)
I do not have enough information to make an informed decision	18 (20.9%)
I don't qualify right now	15 (17.4%)
I am worried I will get COVID from the vaccine	15 (17.4%)
I do not believe the vaccine is effective	13 (15.1%)
I am not sure how long the vaccine will remain effective and I may have to take yearly shots	11 (12.8%)
I do not trust the source that encouraged me to get the vaccine	9 (10.5%)
I am concerned that vaccines cause autism	9 (10.5%)
I already had COVID infection	8 (9.3%)
I would rather get COVID-19 and build my natural protection against the infection than get a vaccine.	8 (9.3%)
Vaccine was manufactured outside the United States	6 (7.0%)
I do not want to/able to take 2 shots to complete the vaccination	6 (7.0%)
I do not believe in any vaccines, and my reason is not any different for a new COVID-19 vaccine	6 (7.0%)
A source that I trust encouraged me to NOT get the vaccine	4 (4.7%)
I am indifferent to receiving the vaccine, but will probably end up not receiving it	4 (4.7%)
I will not be able to afford the vaccination	1 (1.2%)
None of the above	17 (19.8%)

Categorical data presented as n frequencies, n(%).

Table 1b: COVID-19 Vaccine Survey Summary