587. An Intervention to Improve COVID-19 Vaccination Rates Among Inpatients at a Veterans Affairs Hospital

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Session: P-25. COVID-19 Vaccines

Background. Hospitalizations are an opportunity to increase vaccine uptake and hospital-based strategies have been effective at increasing influenza and pneumococcal vaccination. Offering COVID-19 vaccination at discharge can reduce barriers to vaccination and target patients at high risk for severe illness and death. We evaluated a COVID-19 vaccine intervention implemented as part of routine discharge planning.

Methods. We trained healthcare personnel during April 2021 to review and document vaccine eligibility and interest for adult inpatients on medical, surgical, or psychiatric wards at the Atlanta VA Medical Center during discharge planning using a templated note in the electronic medical record (EMR). Outpatient vaccination center personnel were deployed to the participating wards daily (except Sundays) to facilitate vaccine administration at discharge. We measured the percentage of discharged patients with vaccine eligibility documented using the template and compared the number of patients vaccinated at discharge in the 4 weeks pre- and post-training. All Georgia adults became eligible for COVID-19 vaccines on March 25, 2021, prior to our intervention.

Results. Of the 769 patients discharged from one of the participating wards during the 4-week post-training, 474 (62%) had vaccine eligibility documented (Table 1). Of the 474 patients with documentation, 88 (19%) were eligible. Reasons for ineligibility included prior vaccination (n=266, 69%), patient refusal (n=103, 27%), and acute COVID infection (n=12, 3%). Of the 88 eligible patients, 61 (69%) received vaccination before discharge. In total, 16 of 793 inpatients in the pre-training period and 61 of 769 before discharge. In total, 16 of 793 inpatients in the pre-training period and 61 of 769 inpatients in the pre-training period and 61 of 769 inpatients in the pre-training period and 61 of 769 inpatients in the pre-training period and 61 of 769 inpatients in the pre-training period and 61 of 769 were vaccinated before discharge.

Table 1. COVID-19 vaccine eligibility and vaccination before discharge during the post-training period, reported by week

| Post-training period (date) | Total discharged | Total screened for vaccine eligibility (n, % of discharged) | Total eligible for vaccine (n, % of screened) | Total vaccinated before discharge (n, % of eligible) | % vaccinated before discharge of all discharges |
|-----------------------------|------------------|-------------------------------------------------------------|---------------------------------------------|-------------------------------------------------|---------------------------------------------|
| 2/15-2/26                   | 214              | 194, 67.6%                                                  | 201, 100%                                   | 188, 94%                                        | 94%                                         |
| 2/27-3/14                   | 196              | 139, 61%                                                   | 162, 100%                                   | 120, 74%                                        | 62%                                         |
| 3/15-3/28                   | 163              | 102, 62%                                                   | 147, 100%                                   | 137, 94%                                        | 83%                                         |
| Total                       | 573              | 435, 75%                                                   | 504, 100%                                   | 445, 92%                                        | 81%                                         |

Conclusion. We found relatively high and sustained uptake of an intervention to screen hospitalized patients for COVID-19 vaccination eligibility. Creating a templated note in the EMR resulted in vaccination of nearly 70% of eligible patients prior to hospital discharge.

Disclosures. Jennifer Crombie, MD, AbbVie (Grant/Research Support); Bauer (Grant/Research Support); Karorypharm (Consultant); MorphoSys (Consultant); Philippe Armand, MD PhD, ADCT, Celgene, MorphoSys, Dalichi, Milteny, Tesma, 47, Genmab, Enterome, Regeneron, Genentech, Epixyme, AstraZeneca (Consultant, Sorry to put them all in, hope you can deconvolute for me). Affirmed, Adaptive, BMS, Merck, Kite, IGM, Genentech (Research Grant or Support, Institutional research funding) David Walt, PhD, Quanterix Corporation (Board Member, Shareholder) Nicolas C. Isa, MD, AlCarris (Scientific Research Study Investigator) Astellas (Scientific Research Study Investigator) Merck (Scientific Research Study Investigator)

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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 (1x10^{10} IU; n=15) or high (5x10^{10} 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 IFNγ/TNFα (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 IFNγ-producing CD8s, induced following oral immunization with VXA-CoV2-2 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.

Disclosures. Susan Johnson, PhD; Vaxart (Employee); Clarissa Martinez, MPH; Vaxart (Employee); Josefina Martinez, n/a; Shaily Garg, BS; Vaxart (Employee) Nadine Peinovich, MPH; Vaxart (Employee) Emery Dora, n/a; Vaxart (Employee) Sean Tucker, PhD; Vaxart (Employee)

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 anonymous 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 on 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.

Disclosures. Jonathan Tucker, PhD; Vaxart Inc., South San Francisco, CA; Sean Tucker, PhD; Vaxart Inc. (Employee); Josefina Martinez, n/a; Shaily Garg, BS; Vaxart (Employee); Masoud A. Sharifi, MD; Vaxart Inc., South San Francisco, CA; Anjana Pillai, MD; Vaxart Inc., South San Francisco, CA; Hina Asad, MD; Vaxart Inc., South San Francisco, CA; Vidya Menon, MD; Vaxart Inc., South San Francisco, CA; Dennis Mensah, MD; Vaxart Inc., South San Francisco, CA; Raquel Horowitz, MD; Vaxart Inc., South San Francisco, CA; Lara Rabiee, MHS JD; Vaxart Inc., South San Francisco, CA; Mario Cortese, PhD; Vaxart Inc., South San Francisco, CA; Josefina Martinez, n/a; Emery Dora, n/a; Vaxart Inc., South San Francisco, CA; MPH; Shaily Garg, BS; Vaxart Inc., South San Francisco, CA; Sean Tucker, PhD; Vaxart Inc. (Employee)

Table 1b: COVID-19 Vaccine Survey Summary