Table 2. Multivariable Analysis of Predictors for Readmission within 30 days from COVID-19 Infection

Variables	OR (95% CI)	p value
CWIC at hospital admission	1.21 (1.06, 1.39)	0.004
Creatinine on admission	1.12 (1.03, 1.21)	0.009
Rhabdomyolysis	3.84 (1.07, 13.78)	0.04

Abbreviations: OR: Odds ratio, CI: Confidence interval, CWIC: Charlson weighted index of comorbidity

Conclusion. In our cohort, infectious etiologies were common among those readmitted within 30 days of COVID-19. A higher Charlson score, acute renal failure, and rhabdomyolysis during the index admission were independent predictors of a 30-day readmission. Further studies are required to investigate these contributing factors.

Disclosures. **All Authors**: No reported disclosures

37. Allogeneic, Off-the-Shelf, SARS-CoV-2-specific T Cells Demonstrate Reactivity Against Emerging Variant Strains

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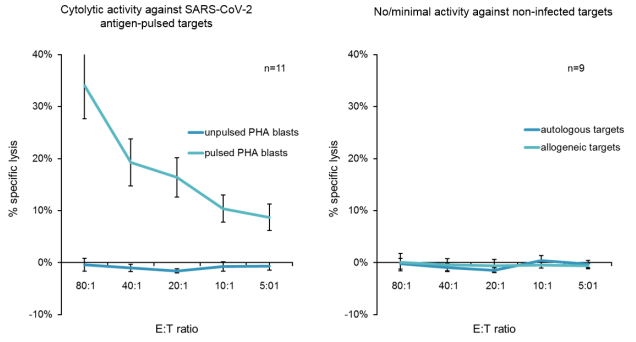
Session: O-07. COVID-19 Complications, Co-infections and Clinical Outcomes 2

Background. The impact of COVID-19 has been profound with >170,000,000 confirmed cases worldwide and emerging variants being a cause of global concern. Defects in T-cell function and trafficking have been described among those with severe illness, and immunodeficiency is a risk factor for persistent viral shedding and prolonged symptoms. Because of our prior clinical data demonstrating that allogeneic, off-the-shelf virus-specific T cells (VSTs) can safely and effectively treat viral infections, we investigated the feasibility of targeting COVID-19 using banked, SARS-CoV-2-specific VSTs.

Methods. We first screened PBMCs from convalescent individuals against 18 structural and non-structural/accessory (NSPs/APs) SARS-CoV-2 proteins and identified 5 [Spike (S), Membrane (M), Nucleoprotein (N), NSP4, and AP7a] as immunodominant which were then advanced to our VST production process.

Results. Using overlapping peptide libraries spanning these antigens as a stimulus, we achieved a mean 7.6±0.9 fold expansion (n=13) of VSTs (96±0.5%), with a mixture of cytotoxic (CD8+) and helper (CD4+) T cells that expressed activation and central/effector memory markers. These VSTs were potent, Th1-polarized and polyfunctional, producing IFNγ, TNFα, GM-CSF and Granzyme B. Moreover, the VSTs were able to kill pepmix-loaded autologous targets with no evidence of auto- or alloreactivity, attesting to their virus selectivity and safety for clinical use (Figure 1). Finally, though initially generated against the reference strain NC_045512.2 (Wuhan), these VSTs were able to recognize other clinically important variants including B1.1.7 (UK), B1.351 (South Africa) and P1 (Brazil). This demonstrates the cross-reactive potential of these polyclonal and diverse VSTs, which were developed to provide potent antiviral effects and minimize the risk of immune escape due to sequence variation.

Figure 1: SARS-CoV-2 Specific T cells Have Demonstrated Selective Cytolytic Activity against SARS-CoV-2 While Leaving Non-Virus Infected Targets Intact.



Conclusion. In conclusion, it is feasible to generate polyclonal SARS-CoV-2 VSTs that provide coverage against variant strains using GMP-compliant manufacturing methodologies. We have advanced this product to the bedside for administration in a Phase I, randomized clinical trial [VSTs+ standard of care (SOC) vs SOC] in high-risk patients hospitalized with COVID-19 (NCT04401410).

Disclosures. **Spyridoula Vasileiou, PhD**, **AlloVir** (Consultant) **Manik Kuvalekar, MSc**, **AlloVir** (Consultant) **Aster Workineh, MSc**, **AlloVir** (Employee) **Ayumi Watanabe, BSc**, **AlloVir** (Consultant) **Yovana Velazquez, BSc**, **AlloVir** (Consultant) **Helen Elisabeth Heslop, MD**, **AlloVir** (Shareholder)**Cell Medica** (Grant/Research Support)**Gilead Sciences** (Consultant)**Kiadis Pharma** (Consultant)**Marker Therapeutics** (Consultant, Shareholder)**Mesoblast** (Consultant)**Novartis** (Consultant)**PACT Pharma** (Consultant)**Tessa Therapeutics** (Consultant, Research Grant or Support) **Premal Lulla, MD**, **Johnson & Johnson** (Shareholder) **Ann Marie Leen, PhD**, **AlloVIr** (Consultant, Shareholder)**Marker Therapeutics** (Consultant, Shareholder)

38. Remdesivir Treatment in Patients Hospitalized with COVID-19: A Comparative Analysis of In-Hospital All-Cause Mortality

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Session: O-08. COVID-19 Treatment & Diagnostics

Background. Remdesivir (RDV) reduced time to recovery and mortality in some subgroups of hospitalized patients in the NIAID ACTT-1 RCT compared to placebo. Comparative effectiveness data in clinical practice are limited.

Methods. Using the Premier Healthcare Database, we compared survival for adult non-mechanically ventilated hospitalized COVID-19 patients between Aug-Nov 2020 and treated with RDV within 2 days of hospitalization vs. those who did not receive RDV. Preferential within-hospital propensity score matching with replacement was used. Patients were matched on baseline O_2 and 2-month admission period and were excluded if discharged within 3 days of RDV initiation (to exclude anticipated discharges/transfers within 72 hrs consistent with ACTT-1 study). Time to 14- and 28-day mortality was examined separately for patients on high-flow/non-invasive ventilation (NIV), low-flow, and no supplemental O_2 using Cox Proportional Hazards models.

Results. RDV patients (n=27,559) were matched to unique non-RDV patients (n=15,617) (**Fig 1**). The two groups were balanced; median age 66 yrs and 73% white (RDV); 68 yrs and 74% white (non-RDV), and 55% male. At baseline, 21% required high-flow O_2, 50% low-flow O_2, and 29% no O_2, overall.

Mortality in RDV patients was 9.6% and 13.8% on days 14 and 28, respectively. For non-RDV patients, mortality was 14.0% and 17.3% on days 14 and 28, respectively. Kaplan-Meier curves for time to mortality are shown in **Fig 2**. After adjusting for baseline and clinical covariates, RDV patients on no O_2 and low-flow O_2 had a significantly lower risk of death within 14 days (no O_2, HR: 0.69, 95% CI: 0.57—0.83; low-flow, HR: 0.67, 95% CI: 0.59—0.77) and 28 days (no O_2, HR: 0.80, 95% CI: 0.68—0.94; low-flow, HR: 0.76, 95% CI: 0.68—0.86). Additionally, RDV patients on high-flow O_2/NIV had a significantly lower risk of death within 14 days (HR: 0.81, 95% CI: 0.70—0.93); but not at 28 days (**Fig 3**).

Fig 1. Study Population

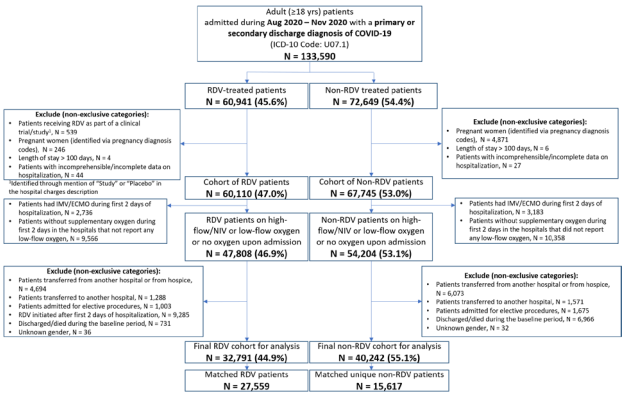


Fig 2. Kaplan-Meier curves among matched patients hospitalized for COVID-19, August-November 2020

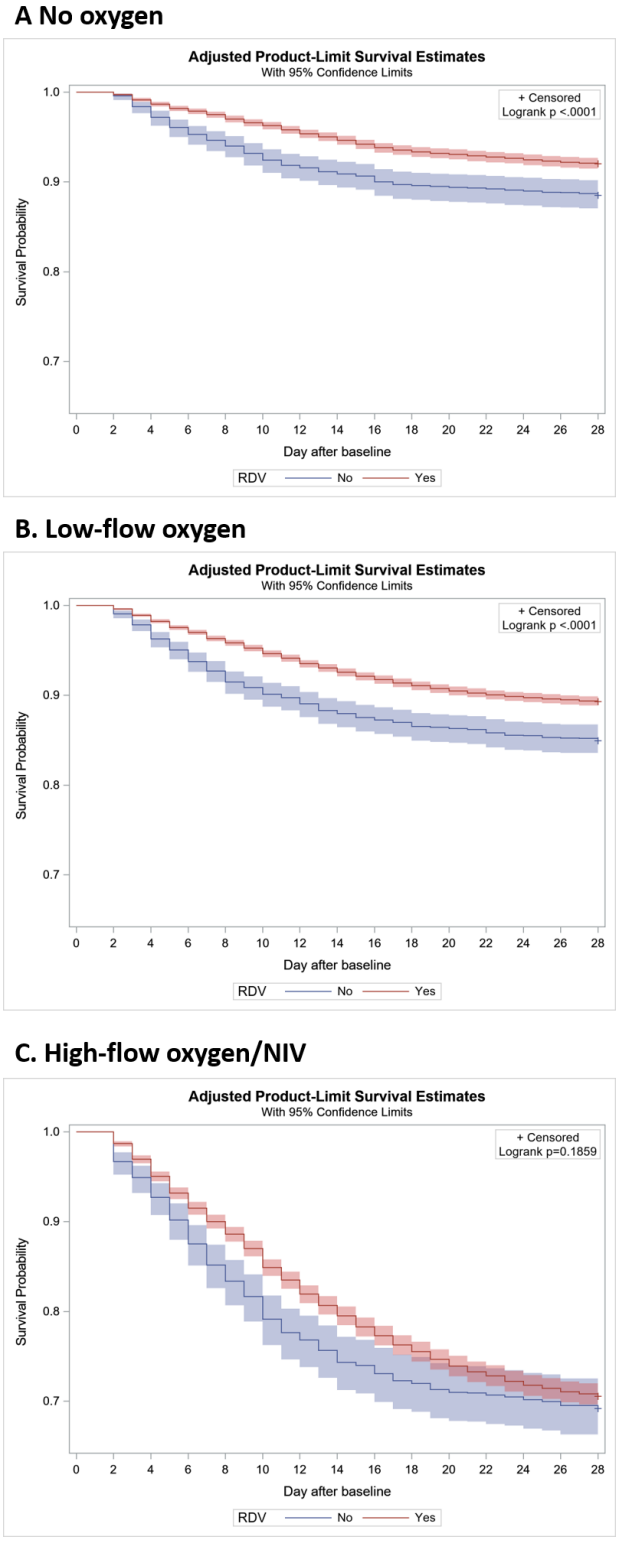
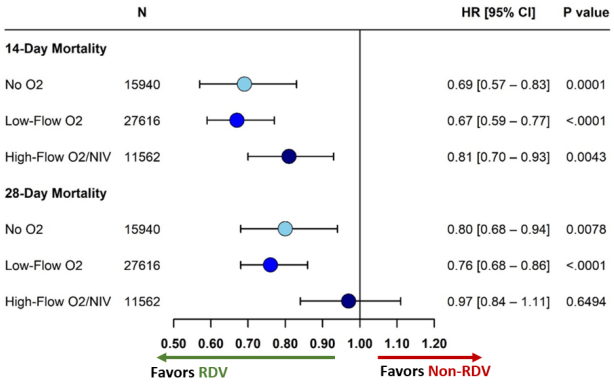


Fig 3. Cox proportional hazard model* for time to mortality among matched patients hospitalized for COVID-19, August-November 2020



** Adjusted for hospital-level random effects and age, admission month, anticoagulants use at baseline, convalescent plasma at baseline, steroids use at baseline, tocilizumab use at baseline, ICU stay/Step-down/General ward at baseline and other covariates with absolute standardized difference>0.15*

Conclusion. In this large study of patients in clinical care hospitalized with COVID-19, we observed a significant reduction of mortality in RDV vs. non-RDV treated patients in those on no O_2 or low-flow O_2. Mortality reduction was also seen in patients on high-flow O_2 at day 14, but not day 28. These data support the use of RDV early in the course of COVID-19 in hospitalized patients.

Disclosures. **Essy Mozaffari, PharmD, MPH, MBA**, **Gilead Sciences** (Employee, Shareholder) **Aastha Chandak, PhD**, **Gilead Sciences** (Other Financial or Material Support, Employee of Certara (contracted by Gilead to conduct this study)) **Zhiji Zhang, MS**, **Gilead Sciences** (Other Financial or Material Support, Employee of Certara (contracted by Gilead to conduct this study)) **Shuting Liang, MPH**, **Gilead Sciences** (Employee) **Mark Thrun, MD**, **Gilead Sciences** (Employee, Shareholder) **Robert L. Gottlieb, MD**, **Eli Lilly** (Scientific Research Study Investigator, Advisor or Review Panel member)**Gilead Sciences** (Scientific Research Study Investigator, Advisor or Review Panel member, Other Financial or Material Support, Gift in kind to Baylor Scott and White Research Institute for NCT03383419)**GSK** (Advisor or Review Panel member)**Johnson and Johnson** (Scientific Research Study Investigator)**Kinevant** (Scientific Research Study Investigator)**Roche/Genentech** (Scientific Research Study Investigator) **Daniel R. Kuritzkes, MD**, **Abpro** (Consultant)**Atea** (Consultant, Scientific Research Study Investigator)**Decoy** (Consultant)**Gilead Sciences** (Consultant, Grant/Research Support)**GSK** (Consultant)**Janssen** (Consultant)**Merck** (Consultant, Grant/Research Support)**Novartis** (Scientific Research Study Investigator)**Rigel** (Consultant)**ViiV** (Consultant, Grant/Research Support) **Paul Sax, MD**, **Gilead Sciences** (Consultant, Grant/Research Support)**Janssen** (Consultant)**Merck** (Consultant, Research Grant or Support)**ViiV** (Consultant, Research Grant or Support) **David Wohl, MD**, **Gilead Sciences** (Consultant, Grant/Research Support, Advisor or Review Panel member)-**Janssen** (Consultant, Advisor or Review Panel member)**Merck** (Consultant, Grant/Research Support, Advisor or Review Panel member)**ViiV** (Consultant, Grant/Research Support, Advisor or Review Panel member) **Roman Casciano, M.Eng**, **Gilead Sciences** (Other Financial or Material Support, Employee of Certara (contracted by Gilead to conduct this study)) **Paul Hodgkins, PhD, MSc**, **Gilead Sciences** (Employee, Shareholder) **Richard Haubrich, MD**, **Gilead Sciences** (Employee, Shareholder)

39. Anti-Spike Monoclonal Antibody Therapy for Kidney Transplant Recipients with COVID-19

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Session: O-08. COVID-19 Treatment & Diagnostics

Background. Organ transplant recipients may not mount an adequate immune response to COVID-19 infection, and therefore may benefit greatly from passive immunization with anti-spike monoclonal antibodies (mAb), which have been shown to decrease hospitalization rates in the general outpatient population. We evaluated the efficacy of mAb therapy in decreasing hospitalizations or emergency room (ER) visits among kidney transplant recipients (KTR) with COVID-19.