Session: P-02. Adult Vaccines

Background. Infectious complications in cancer patients (pts) who have received T-cell therapies are similar to those in autologous hematopoietic stem cell transplant (HCT) recipients, who - because they lose prior acquired immunity after undergoing conditioning regimens and transplantation - may be at an increased risk for vaccine-preventable infections. We sought to determine seroprotection rates against pneumococcus and tetanus-diphtheria before and after cellular therapies.

We performed antibody assays for diphtheria, tetanus, and pneumococcus before, at 1 month, and between 3-6 months after T-cell therapy for each pt regardless of vaccination history.

Results. Of 38 pts enrolled, 27 (71%) were men and 25 (66%) had non-Hodgkin lymphoma (Table 1); 38 (100%) and 17 (45%) had a history of previous diphtheria-tetanus-acellular pertussis (Tdap) and pneumococcal vaccination, respectively (Table 2). Pneumococcal serologies were positive for all pts tested before, at 1 month and 3-6 months after T cell therapy (37/37 [100%], 22/22 [100%], and 13/13 [100%], respectively). Diphtheria serologies were positive for most pts tested before, at 1 month and 3-6 months after therapy (35/37 [95%], 20/22 [91%], and 11/13 [85%], respectively). Pneumococcal serologies were positive for 8 out of 37 (22%) pts before therapy, among these 8 pts, 4 had positive serologies 1 month after therapy, and 2 of 3 tested 3-6 months after therapy had positive serologies. One pt received a pneumococcal vaccine 10 months after therapy but had negative serologies post-vaccination.

Conclusion. Most pts who received T-cell therapy retained their immunity for diphtheria and tetanus, but most also lost their immunity for pneumococcus. This suggests that the standard of care for pts receiving T-cell therapy should include more robust strategy for pneumococcal vaccination, but its timing, for booster dosing, and antibody response needs to be determined in future trials.

Disclosures. Roy F. Chemaly, MD, MPH, FACP, FIDSA, AiCuris (Grant/Research Support); Ansun Biopharma (Consultant, Grant/Research Support); Chimerix (Consultant, Grant/Research Support); Genentech (Consultant, Grant/Research Support); Janssen (Consultant, Grant/Research Support); Karius (Grant/Research Support); Merck (Consultant, Grant/Research Support); Molecular Partners (Consultant, Advisor or Review Panel member); Novartis (Grant/Research Support); Oxford Immunotec (Consultant, Grant/Research Support); Partner Therapeutics (Consultant); Pulmocet (Consultant, Grant/Research Support); Shire/Takeda (Consultant, Grant/Research Support); Viracor (Grant/Research Support); Xenex (Grant/Research Support); Farazed Khawaja, MBBS, Eurofins Viracor (Research Grant or Support); Ella Ariza Heredia, MD, Merck (Grant/Research Support).

16. An Ambulatory Quality Improvement Initiative to Optimize Influenza Vaccination Amongst Adults Living with HIV During the COVID-19 Pandemic

Deborah A. Kahal, MD, MPH, FACP1; Christopher James, PharmD, AAHIVP2; Brian Wharton, MSN, RN, CPEN, CPST3; Sherine Eaddy, RN, CRNP.1

Background. Seasonal influenza vaccination decreases individual and population-level morbidity and mortality, mitigates risk of acquiring influenza-like illness, and prevents healthcare system overburdening. Vaccination is important for people living with HIV (PLWH) who have increased risk for severe disease, hospitalization, and poor outcomes. Moreover, influenza vaccination has been associated with decreased COVID-19 mortality in older patients. Historical annual adult influenza vaccinations rates at the study site were 65%, exceeding local and national benchmarks. Amidst COVID-19, we recognized a need to increase influenza vaccination rates.

Methods. A multifaceted, bundled quality improvement (QI) initiative aimed to achieve ≥80% influenza vaccination coverage for the 2020-21 season in PLWH ≥18 years of age at our Wilmington site (N=750). Stakeholders were identified, and a voluntary multidisciplinary team formed to lead the initiative (Fig. 1). Fishbone diagram outlined clear, rapidly implementable, and reproducible levers for change (Fig. 2). Physical and virtual space changes included: diverse clinical displays (visuals, patient materials), phone messaging, and virtual platform use. Staff education, stakeholder engagement, and executive support were added. Data were extracted from 1 Oct 2020 through 31 March 2021. All external vaccinations were confirmed. Overall and eligible in-clinic vaccination rates were updated and displayed weekly.

Table 1. Patient characteristics

| Characteristics | No. patients (%) | N=38 |
|-----------------|------------------|------|
| Age, median (range), years | 65 (16-80) |
| Sex | Female | 11 (29) |
| Male | 27 (71) |
| Comorbidities | Hypertension | 16 (42) |
| Diabetes mellitus type 2 | 6 (16) |
| Coronary artery disease | 1 (3) |
| Chronic kidney injury stage 3-5 | 1 (3) |
| Cancer Diagnosis | Non-Hodgkin lymphoma | 5 (15) |
| Hodgkin lymphoma | 2 (5) |
| Acute lymphoid leukemia | 1 (3) |
| Chronic lymphoid leukemia | 1 (3) |
| Multiple myeloma | 2 (5) |
| Solid cancer | 4 (11) |
| History of hematopoietic cell transplantation | 3 (8) |
| Prior pneumococcal vaccine | 17 (45) |
| Prior tetanus/diphtheria/pertussis vaccine | 38 (100) |

Table 2. Patients’ laboratory test results and cancer status at each timepoint.

| Characteristic | History of influenza vaccination before (N=100) | Before CART therapy (N=80) | 1 month after CART therapy (N=80) | 6 months after CART therapy (N=80) |
|---------------|-----------------------------------------------|-----------------------------|-----------------------------------|-------------------------------------|
| Diphtheria antibody, no. pts (%) | 30 (100) | 30 (100) | 30 (100) | 30 (100) |
| Positive | 30 (100) | 29 (97) | 29 (97) | 29 (97) |
| Negative | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Pneumococcal antibody, no. pts (%) | 37 (100) | 37 (100) | 36 (100) | 34 (100) |
| Positive | 30 (81) | 29 (79) | 28 (78) | 24 (70) |
| Negative | 7 (19) | 8 (21) | 8 (22) | 10 (30) |

Methods. In this ongoing prospective observational cohort study, we enrolled pts with any type of cancer who received cellular therapy with chimeric antigen receptor modified T cell (CAR-T), natural killer CAR-T, or T-cell receptor directed immuno-therapies at MD Anderson Cancer Center from January 2020 through May 2021.

OFID 2021:8 (Suppl 1) • Abstracts
Sanofi

The CT-FI distribution followed a gamma distribution with a range

Seqirus

our study aims to investigate whether

InfV efficacy but it is thought to have some benefit. The effect on morbidity and mor

patients, the influenza vaccine is associated with significant benefit in morbidity and

Vaccination strategy, including high-dose and repeat doses, should be examined in MM patients.

Disclosures. All Authors: No reported disclosures

18. An Easy-to-Implement Clinical-Trial Frailty Index Based on Accumulation of Deficits: Validation in Zoster Clinical Trials
Melissa K. Andrew, MD, PhD; Sean Matthews, MS²; Joon Hyung Kim, MD;²
Megan Riley, PhD; Desmond Curran, PhD;² Dalhousie University, Halifax, Nova Scotia, Canada;² Freelance c/o GSK, Wavre, Brabant Wallon, Belgium;² GSK, Rockville, Maryland
Session: P-02. Adult Vaccines

Background. The impact of frailty on the efficacy and safety of vaccines and thera

- Methods. Items included in the CT-FI were scored from 0 to 1, summed for each participant and divided by the total number of potential deficits. CT-FI was validated using descriptive methods verifying distribution and age- and sex-associations in re

Disclosures. Deborah A. Kahal, MD, MPH, FACP, Gilead (Speaker’s Bureau) Viiv (Speaker’s Bureau)

17. A Retrospective Cohort Study of Influenza Infected Multiple Myeloma Patients Comparing Clinical Outcomes Between Vaccinated and Unvaccinated Taylor D. Wilson, na;¹ Jacob Leffert, M.D./Doctorate of Medicine;¹ Juan Carlos Rico Crescencio, MD;¹ Mitchell Jenkins, MD;¹ Mary J. Burgess, MD;¹ University of Arkansas for Medical Sciences, Trumann, Arkansas; Conway Regional Hospital, Conway, Arkansas

Session: P-02. Adult Vaccines

Background. The current standard of care for multiple myeloma (MM) patients is to administer the influenza vaccine (InfV) annually. While in immunocompetent patients, the influenza vaccine is associated with significant benefit in morbidity and mortality, the inherent immunodeficiency from MM and its treatments reduce the InfV efficacy but it is thought to have some benefit. The effect on morbidity and mor
tality in MM patients has not been evaluated. Our study aims to investigate whether

InV vaccination status affects outcomes of MM patients diagnosed with Influenza A or B (Flua, Flub).

Methods. This was a retrospective study, using Arkansas Clinical Data Repository, which identified all MM patients diagnosed with Flua or Flub during five consecutive flu seasons from September 1st to April 30th, 2015-2020. Those with hospital-acquired influenza were excluded. The outcome data were collected for 30 days following the initial diagnosis. Fisher Exact test was used to compare categorical variables, and Mann Whitney U test to compare continuous variables.

Results. We identified 194 MM patients diagnosed with Flua or Flub. Sixty-five (34%) were vaccinated and 129 (66%) were not vaccinated. A total of 87 (45%) were admitted to the hospital. Twenty-five (38%) of the vaccinated vs. 62 (48%) of the unvaccinated group were hospitalized (p=0.22), and 4/65 vaccinated vs. 12/129 unvaccinated required ICU treatment (p=0.59). Two patients in the vaccinated and 3 in the non-vaccinated group were intubated (p=1). The mean length of stay (LOS) for the vaccinated and unvaccinated was 10 days and 14 days, respectively, which was not significa
dently different (p=0.197). Two (3%) patients died within 30 days of diagnosis in the vaccinated group while four (3%) died in the unvaccinated group (p=1).

Conclusion. The InfV status of MM patients had no effect on outcomes including the need for hospital admission, ICU stay, mechanical ventilation, LOS, and death. Hospitalization was common, but severe illness requiring ICU care and intubation were less common. Six patients died within 30 days of influenza diagnosis. Vaccination strategy, including high-dose and repeat doses, should be examined in MM patients.

Disclosures. All Authors: No reported disclosures

19. Delivery of Flu Immunizations to Healthcare Workers During COVID-19 Pandemic Using a Multidisciplinary Flu Team Approach in a Tertiary Center in the Middle East
Lysette Cardona, MD, MPH, MS, FIDSA, FACP;¹ Shadi Mohammed, DNP;²
Samah Nour, N/A, MD, MPH, PACOEM;¹ Muied Alkhalaileh, MD;² Cleveland Clinic Florida, Stuart, Florida;² Cleveland Clinic Abu Dhabi, Abu Dhabi, Abu Dhabi, United Arab Emirates

Session: P-02. Adult Vaccines

Background. Compliance with influenza immunization in HCW remains a global challenge, uptake in the Middle East has been reported at 24.7% due to limited