Poster #: 1715

XXI IWCLL International Workshop on CLL

Real-World Outcomes Following Pemivibart (Pemgarda™) for COVID-19 Prophylaxis in Immunocompromised Patients with Hematologic Malignancies

Truman Koh, BS; Ashwin Sunderraj, MD; Rudy Mrad, MD; Farrukh T. Awan, MD, MS, MBA

UT Southwestern Medical Center

OBJECTIVES

- Evaluate the safety of Pemivibart in patients with hematologic malignancies with respect to adverse events
- Evaluate the efficacy of Pemivibart in patients with hematologic malignancies with respect to breakthrough COVID-19 infection, hospitalization, and mortality

CONCLUSIONS

- Pemivibart was well tolerated in our cohort, with mild adverse events observed in only N = 4 (4%) patients
- In our cohort, patients on Pemivibart experienced a low incidence rate of breakthrough COVID-19 infection, with only N = 5 developing infection and all with mild infection
- No patients in our cohort were hospitalized or died

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INTRODUCTION

- Patients with hematologic malignancies are at high risk for COVID-19 mortality
- Disease- and treatment-related immunosuppression contribute to vulnerability
- Many patients fail to mount adequate responses to COVID-19 vaccination.
- Pemivibart is a long-acting monoclonal antibody for pre-exposure prophylaxis against COVID-19 in immunocompromised individuals
- Real-world data on Pemivibart safety and efficacy in patients with hematologic malignancies remain limited

METHODS

- Retrospective study evaluating safety and effectiveness of Pemivibart in immunocompromised patients with hematologic malignancies
- IRB-approved review of adult patients treated at our tertiary academic medical center (March 2025 – May 2025)
- N = 111 patients were included
- Data collected on demographics, diagnosis, vaccination history, Pemivibart dosing, adverse reaction, and breakthrough COVID-19 infections

Table 1. Patient Demographics

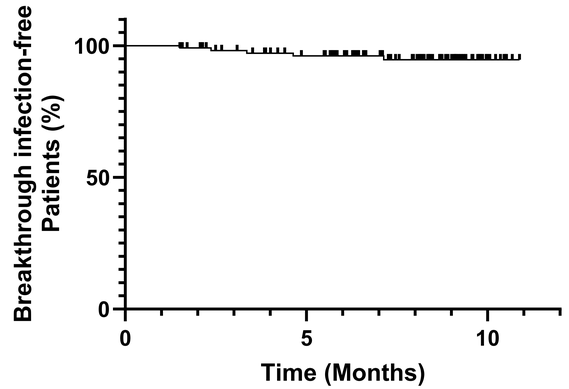
	Patients (n=111)
Age, years	
<60	19 (17%)
60–69	25 (23%)
70–79	49 (45%)
≥80	18 (16%)
Sex, n (%)	
Female	41 (37%)
Male	70 (63%)
Diagnosis, n (%)	
CLL/SLL	72 (64%)
DLBCL	16 (14%)
MM/WM	4 (4%)
FL	14 (13%)
MCL	7 (6%)
Other	12 (11%)
COVID Vaccination Status, n (%)	
Vaccinated	97 (87%)
Unvaccinated	9 (8%)
PrEP Vaccination Status, n (%)	
Received Evusheld	59 (53%)
1 dose	72 (65%)
2 doses	26 (23%)
3 doses	11 (10%)
4 doses	2 (2%)

Table 2. Adverse Events Following Pemivibart Infusion

Adverse Event	Grade	N (%)	Outcome
Infusion Reaction	2	2 (1.8%)	Resolved with supportive care; infusion resumed
Fatigue/ Cough	1	1 (0.9%)	Resolved; no recurrence
Infusion Reaction	1	1 (0.9%)	resolved with rescue meds

RESULTS

Figure 1. Cumulative Incidence of Breakthrough Infection



- N = 111 patients with hematologic malignancies (64% CLL/SLL), with a mean age of 72 years (IQR 64-76) and predominantly male (63%)
- Median of 4 (IQR 3-6) prior COVID-19 vaccine doses
- Majority of patients only got 1 dose of Pemivibart (65%)
- Adverse events only occurred in 4 patients (3.6%) - none resulted in hospitalization or death
- There were 5 breakthrough infections
- Median follow up time 247 days (IQR 178-281)

DISCUSSION

- In real-world cohort of patients with hematologic malignancies, Pemivibart was well tolerated and associated with a low rate of breakthrough COVID-19 infection.
- Prior data in vaccinated hematologic malignancy patients without prophylaxis reported a 17% (266/1551) one-year breakthrough infection rate, compared to 4.5% (5/111) in our cohort.[1]
  - Interpretation is limited by the absence of a control group and potential selection bias
- Additional analyses in larger and more diverse populations will be important to confirm these observation ad clarify the role of Pemivibart in preventive care for immunocompromised patients

FUTURE DIRECTIONS

- Expand analysis by creating a matched cohort of patients with hematologic malignancies who did not receive Pemivibart
  - Use available clinical characteristics to reduce confounding variables.
- Compare rates of breakthrough COVID-19 infection, severity of illness, and adverse outcomes between Pemivibart -treated and untreated patients.

REFERENCES

[1] Piñana JL, et al. Blood Cancer J. 2022;12(11):178.

DISCLOSURES

None