



The Real-World Effectiveness of Tixagevimab and Cilgavimab in Immunocompromised Patients:

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A Single Center Study in Taiwan

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BACKGROUND & OBJECTIVES

- Tixagevimab 300 mg and cilgavimab 300 mg (T + C), a combined monoclonal antibody, help immunocompromised patients reduce the risk of infection COVID-19 through passive immunization.
- However, the relevant real-world studies on the use of T + C in those patients are still lacking.
- To analyzed the efficacy of T + C in immunocompromised patients in real-world.



METHODS

Study Design Retrospectively observational study

Study Period 2022/10/1-2023/1/31

Data Source Single medical center electronic medical records database in Taiwan

Study Population

Immunocompromised patients:

- ① solid organ transplant
- ② blood or bone marrow transplant
- ③ CAR-T therapy
- ④ B cell depletion therapy

before one year of T + C initiation.

Study Outcome

Followed up three-month to analyze

- ① the rate of COVID-19 infection
- ② the rate of death
- ③ the potential risk factors of COVID-19 infection after T+C as prophylaxis



RESULTS

Baseline characteristics

- A total of 92 patients were included in the study.
- 36 patients had received solid organ transplantation (39%), and 56 patients had B-cell depletion therapy (61%).
- During the three-month follow-up, 12 patients were infected with COVID-19 and 1 patient died.

Subgroup analysis

- The incidence of COVID-19 infection was relatively **higher** in
 - ① the elderly population (16.1% vs. 13.1%)
 - ② chronic disease patients (18.3% vs. 9.3%),
 - ③ cardiovascular disease patients (15.4% vs. 0%)
- The incidence of COVID-19 infection was relatively **lower** in
 - ① vaccinated patients (3.8% vs. 44.4%)
 - ② the adenovirus vector vaccine than the mRNA vaccines(no infection vs. one case)

Tab. 1 Baseline characteristics of the patients

Characteristics	Value (N=92)	COVID-19 infection
Median age—years	60.0	57.9
> 65 years old—n (%)	31 (33.7%)	5 (16.1%)
≤ 65 years old—n (%)	61 (66.3%)	8 (13.1%)
Male—n (%)	59 (64.0%)	7 (11.9%)
Underlying cause of immunosuppression—n (%)		
Solid organ transplantation	36 (39.0%)	5 (13.9%)
B-cell depletion therapy	56 (61.0%)	7 (12.5%)
Comorbidity—n (%)		
Chronic disease	49 (53.2%)	9(18.3%)
Cardiovascular disease	84 (91.3%)	13(15.4%)
Received vaccine—n (%)	Value (N=35)	COVID-19 infection
Yes	26 (74.3%)	1(3.8%)
No	9 (25.7%)	4(44.4%)
Mechanism of primary series vaccines—n (%)	Value (N=19)	COVID-19 infection
Adenovirus vector	8 (42.1%)	0 (0.0%)
mRNA	11 (57.9%)	1(9.1%)

Fig. 1. Received vaccine (N=35)

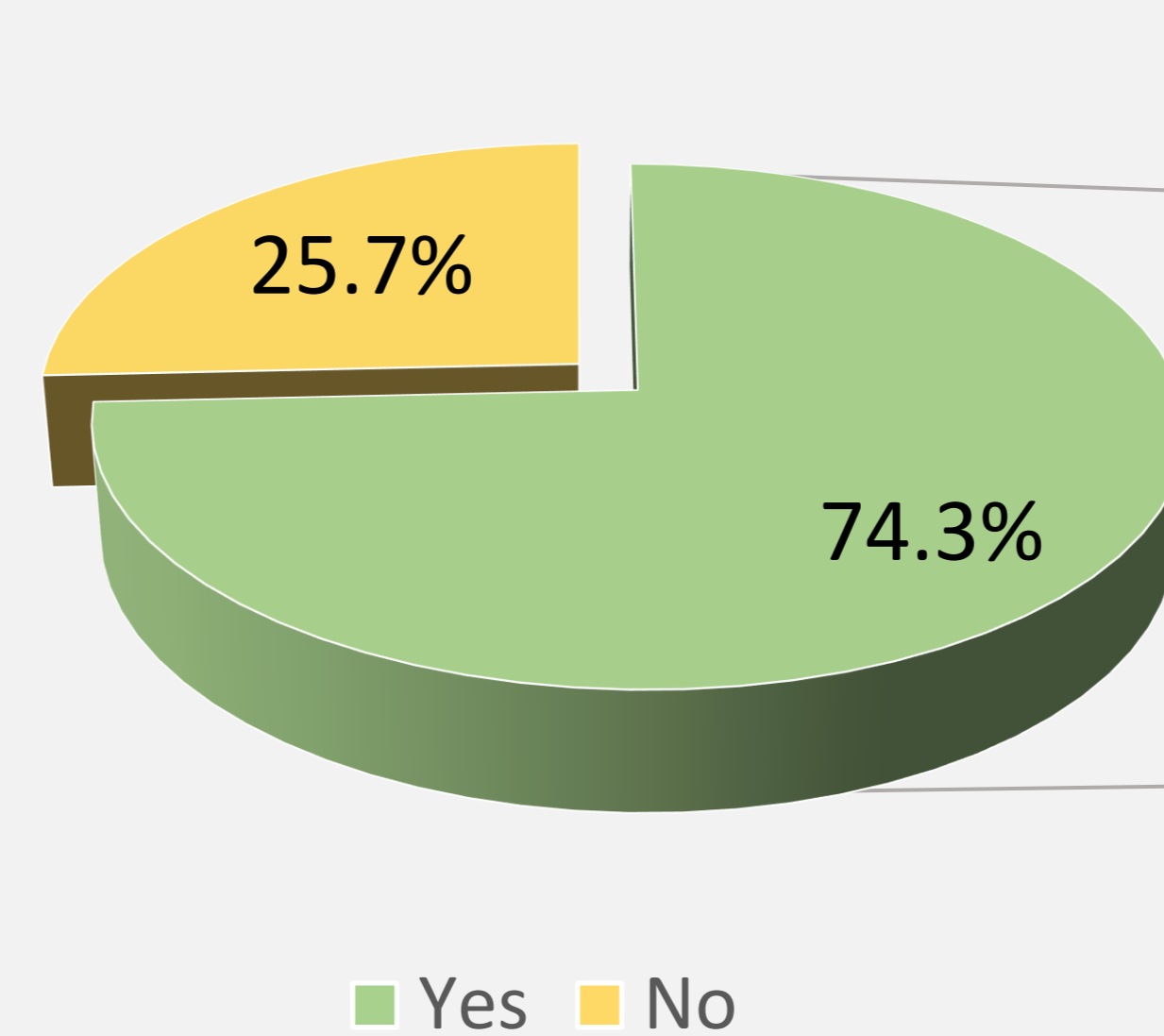
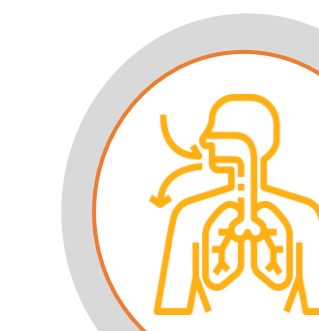
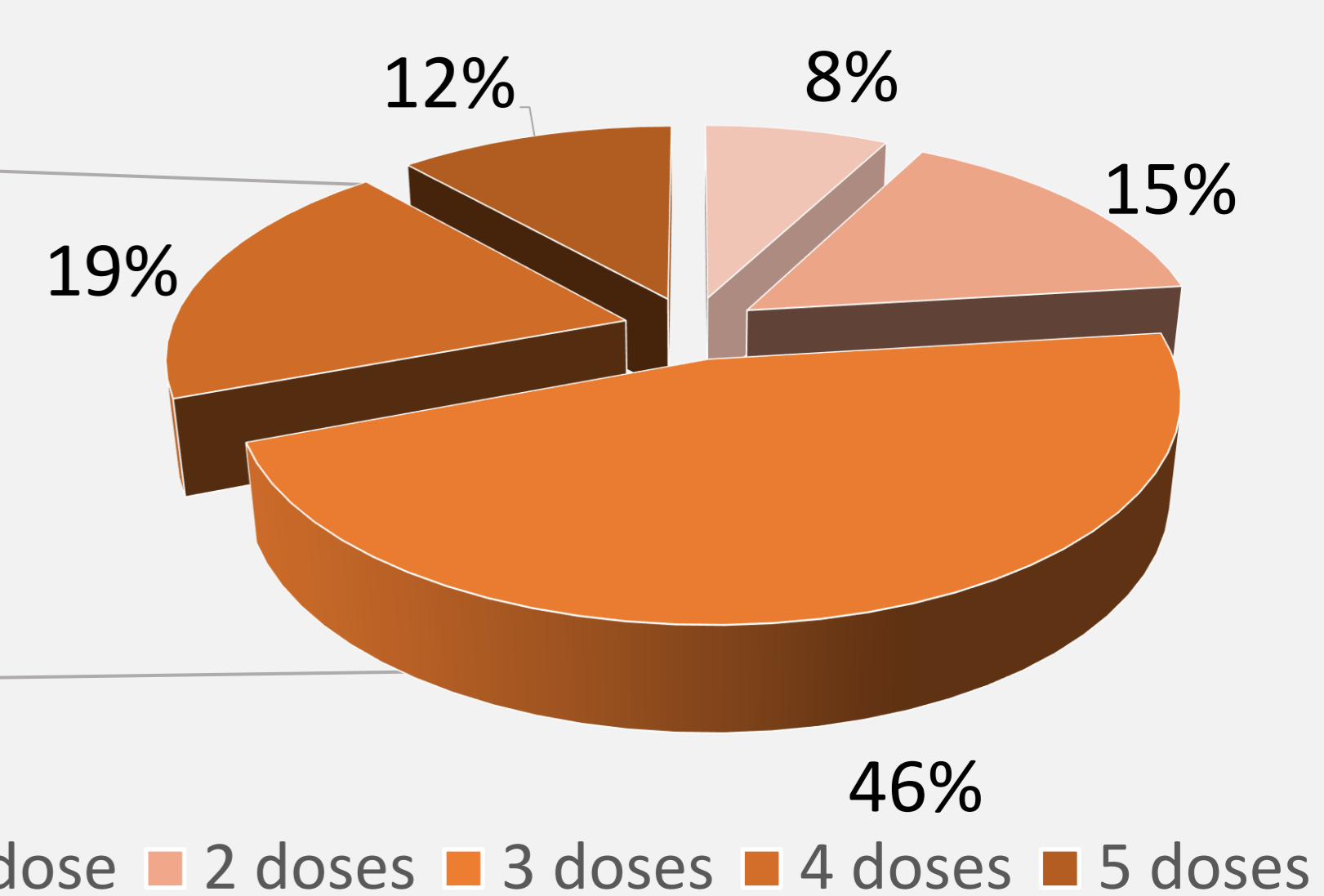


Fig. 2. Number of vaccine doses (N=26)



CONCLUSIONS

For immunocompromised patients with high risk factors (elderly, cardiovascular diseases, chronic diseases), they should still be aware of the risk of infection even with given T + C as a prophylaxis for COVID-19.