Supplementary material

Supplementary methods:

Tixagevimab/cilgavimab allocation scheme:

Tixagevimab/cilgavimab pre-exposure prophylaxis was performed through referral by the primary transplant physician after discussion of the potential risks and benefits with each individual patient. Given the initial limited supply, transplant physicians were recommended to prioritize the referral of transplant patients to receive tixagevimab/cilgavimab if they deemed them to be at high risk for breakthrough SARS-CoV-2 infection or at high risk for severe SARS-CoV-2 infection. Recommended patients to be prioritized for tixagevimab/cilgavimab pre-exposure prophylaxis included:

- Any lung transplant recipient
- Kidney transplant recipients on belatacept
- Solid organ transplant recipients who recently received B cell depletion therapy or recently received rejection treatment
- Solid organ transplant recipients who had undetectable anti-spike receptor binding domain (RBD) antibody levels after receiving three or four SARS-CoV-2 vaccines.

It is important to note that these criteria were recommended but were not strictly required. Therefore, transplant physicians who deemed their SOTR patients to be at high risk for breakthrough or severe SARS-CoV-2 infection for other reasons were able to place referrals for tixagevimab/cilgavimab as well.

Figure S1. Dates of tixagevimab/cilgavimab administration (Dec. 2021-April 2022).

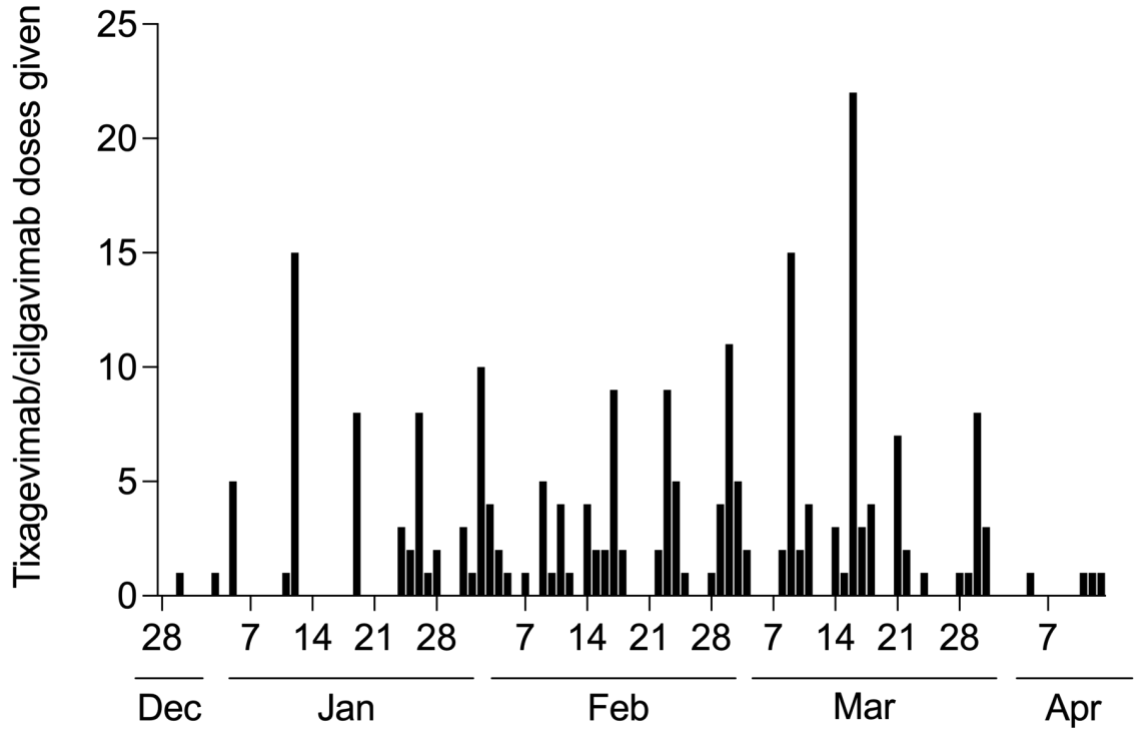

Table S1. Breakthrough infections in the control group.

#	Date of infection	Most common variant at the time*	SOT	No. of vaccines	Months since last vaccine	Hosp.	Treatment	Outcome
1	Jan 11th 2022	B.1.1.529	Kidney	3	4.9	Yes	Remdesivir	Died
2	Jan 21st 2022	B.1.1.529	Kidney	3	4.3	Yes	Remdesivir	Died
3	Jan 21st 2022	B.1.1.529	Lung	3	3.6	No	-	Recovered
4	Jan 26th 2022	B.1.1.529	Kidney	2	9.1	Yes	Glucocorticoids	Died
5	Jan 27th 2022	B.1.1.529	Lung	4	4.9	No	Sotrovimab	Recovered
6	Feb 1st 2022	B.1.1.529	Lung	4	5.3	No	-	Recovered
7	Feb 8th 2022	B.1.1.529	Kidney	4	2.5	No	-	Recovered
8	Feb 9th 2022	B.1.1.529	Lung	3	3.4	No	Sotrovimab	Recovered
9	Feb 9th 2022	B.1.1.529	Lung	3	5.4	No	Sotrovimab	Recovered
10	Feb 13th 2022	B.1.1.529	Liver	3	5.8	No	Sotrovimab	Recovered
11	Feb 23rd 2022	B.1.1.529	Lung	3	5.5	No	Sotrovimab	Recovered
12	March 9th 2022	B.1.1.529	Lung	2	6.0	No	Sotrovimab	Recovered
13	March 28th 2022	BA.2	Lung	3	6.3	No	MAB at outside institution	Recovered
14	March 30th 2022	BA.2	Lung	3	4.3	No	Bebtelovimab	Recovered
15	April 11th 2022	BA.2	Liver	3	7.4	No	MAB at outside institution	Recovered
16	April 17th 2022	BA.2	Lung	4	2.5	No	Bebtelovimab	Recovered
17	April 19th 2022	BA.2	Kidney	4	1.7	No	Bebtelovimab	Recovered
18	April 21st 2022	BA.2	Kidney	4	2.0	No	-	Recovered
19	April 26th 2022	BA.2	Kidney /Liver	4	2.5	No	Bebtelovimab	Recovered
20	May 3rd 2022	BA.2	Kidney	4	2.6	No	Bebtelovimab	Recovered
21	May 3rd 2022	BA.2	Lung	4	8.5	No	Bebtelovimab	Recovered
22	May 3rd 2022	BA.2	Kidney	3	6.9	No	Remdesivir	Recovered
23	May 4th 2022	BA.2	Lung	2	10.3	No	-	Recovered
24	May 9th 2022	BA.2	Kidney	4	2.6	No	-	Recovered

25	May 9th 2022	BA.2	Lung	4	8.6	Yes	Remdesivir	Recovered
26	May 11th 2022	BA.2	Liver	4	3.4	Yes	Remdesivir	Recovered
27	May 13th 2022	BA.2	Kidney	4	2.9	No	Bebtelovimab	Recovered
28	May 16th 2022	BA.2	Lung	4	2.7	No	-	Recovered
29	May 21st 2022	B.2.12.1	Lung	3	3.2	No	-	Recovered
30	May 24th 2022	B.2.12.1	Kidney	2	14.6	No	-	Recovered
31	May 24th 2022	B.2.12.1	Lung	4	5.2	No	Bebtelovimab	Recovered
32	May 25th 2022	B.2.12.1	Kidney /Liver	3	15.3	Yes	Remdesivir	Remains admitted

MAB: monoclonal antibody. SOT: solid organ transplant.

*Based on the most prevalent SARS-CoV-2 variant in region 1 (including Massachusetts) from the Center for Disease Control and Prevention COVID data tracker: https://covid.cdc.gov/covid-data-tracker/#variant-proportions