A retrospective analysis of rates of dermatology follow-up and new skin cancer diagnosis among solid organ transplant recipients during the COVID-19 pandemic

To the Editor: Compared with the general population, solid organ transplant recipients (SOTRs) receiving immunosuppressant therapy are at an elevated risk of developing non-melanoma skin cancers (NMSC).[1] Per expert consensus guidelines, regular dermatologic surveillance is recommended in this high-risk population to improve skin cancer morbidity and mortality.[2] While current research has explored the impact of the COVID-19 pandemic on dermatologic surveillance and skin cancer outcomes in non-SOTRs, literature relevant to SOTRs remains sparse.[3,4] We sought to compare utilization rates of dermatologic in-person versus telemedicine services, and new NMSC diagnoses among SOTRs before and during the first wave of the COVID-19 pandemic.

An Institutional Review Board-approved retrospective medical chart review of kidney, liver, heart, and lung recipients at the Keck Hospital of the University of Southern California from 2013 to 2018 was performed. The prepandemic interval from October 2018 to March 2020 was compared to April 2020 to September 2021 (the stay-at-home period of the first wave of the COVID-19 pandemic in Los Angeles). For each 18-month interval, we recorded in the REDCap (Research Electronic Data Capture) database the number of in-person and virtual visits by SOTRs to our dermatology department as well as the number of new NMSC diagnoses made during the pre- and peripandemic intervals. Statistical analyses were conducted using R, version 4.1.2 (R Foundation).

A total of 1569 SOTRs were evaluated (mean age = 59.3 years; 63.2% male, 48.1% Hispanic or Latino, and 46.4% listing Medicare as their primary insurance). Overall, 152 (9.69%) SOTRs had at least one dermatology visit during the prepandemic period, compared to 130 (8.29%) peripandemic ($P = .170$) [Table I]. No significant difference was found in the mean number of in-person general dermatology visits between the 2 intervals. A statistically significant increase was found in the number of general teledermatology visits (0 visits per patient seen prepandemic vs 0.24 peripandemic; $P = .008$). A statistically significant decline was found in the number of new patient visits (0.55 visits per patient seen prepandemic vs 0.30 peripandemic; $P = .008$). No significant difference was found in the number of follow-up visits. Nine patients received new skin cancer diagnoses during the prepandemic interval, compared to 13 peripandemic ($P = .304$).

The distribution by organ transplanted was as follows: kidney, 54.2%; liver, 38.2%; heart, 6.3%; lung, 5.5%; and pancreas, 0.8%. Wilcoxon's signed rank test was used for continuous variables and a two-sample test for proportions for categorical variables. All tests were 2-sided and a $P < .05$ was considered statistically significant. Among the 9 patients with new skin cancer diagnoses made during the prepandemic period, there were 6 basal cell carcinomas, 5 squamous cell carcinomas, and no melanomas diagnosed. Among the 13 patients with new peri-pandemic skin cancer diagnoses, 8 were basal cell carcinomas, 9 were squamous cell carcinoma, and 2 were melanomas. All new skin cancer diagnoses made during pre- and peripandemic periods were made at in-person visits.

Our findings suggest that our population of SOTRs did not experience a significant disruption in dermatologic care during the first wave of the COVID-19 pandemic in Los Angeles. We found an increased reliance on teledermatology without a concomitant decline in utilization of in-person care. Studies predating the pandemic demonstrate superior skin cancer diagnostic accuracy of face-to-face visits as compared to televisits among the general population.[5] Similar pre- and peripandemic rates of new NMSC diagnoses were observed at our institution. Our single center retrospective analysis may limit the generalizability of our findings but provides some reassurance that it is possible to carry out regular dermatologic surveillance and treatment among high-risk patients during pandemic conditions.

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Table I. Mean numbers of dermatology visits per patient seen by visit type and time interval

Visit type	Prepandemic interval mean (SD) (minimum, maximum)	Peripandemic interval mean (SD) (minimum, maximum)	*P* value
General in-person	2.10 (1.65) (0, 9)	1.76 (1.49) (0, 11)	.138
General telemedicine	0 (0)	0.24 (0.78) (0, 4)	**.008**
Mohs in-person	0.12 (0.42) (0, 2)	0.24 (0.78) (0, 4)	.343
Mohs telemedicine	0 (0)	0 (0)	
New skin cancer diagnoses telemedicine	0 (0)	0 (0)	
New patient	0.55	0.30	**.008**
Follow-up	1.63	1.81	.088

Bold indicates statistically significant *P*-values ($P < .05$).
SD, Standard deviation.

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Conflicts of interest

None disclosed.

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