Clinical outcomes in a cohort of patients with cutaneous T-cell lymphoma and COVID-19

To the Editor: Patients with malignancies are at risk of poor outcomes from COVID-19.[1] In particular, the death rate of patients with hematologic malignancies is reported to be 14% within 1 month of COVID-19 diagnosis.[2] It remains unclear whether patients with cutaneous lymphomas are at comparable risk. One study reported that patients with cutaneous lymphomas infected with SARS-CoV-2 have the same susceptibility and outcomes as those without cutaneous lymphomas infected with SARS-CoV-2.[3] However, advanced age and long-term immunosuppressive therapy may place patients with cutaneous lymphomas at risk of life-threatening complications.[4,5] We aimed to assess the impact of COVID-19 on patients with primary cutaneous T-cell lymphomas (CTCLs) at our institution.

Our study was conducted with the approval of the institutional review board at the University of Michigan. We retrospectively reviewed patient records for individuals diagnosed with CTCL at Michigan Medicine from 2010 to 2022. Patients deceased before February 1, 2020, were excluded. In our cohort of 384 patients with cutaneous lymphoma seen in our health system since January 1, 2010, we identified 24 patients with CTCL who tested positive for COVID-19. To understand the risk factors for patients who tested positive for COVID-19, we performed a retrospective analysis of lymphoma-related disease history.

A summary of the patient demographics and CTCL history at the time of COVID-19 infection is provided in Table I. Our cohort includes 13 men and 12 women with a median age of 57.08 years (range, 18-88 years). Diagnoses ranged from lymphomatoid papulosis to mycosis fungoides with large cell transformation, leukemic involvement, or erythroderma (Sezary syndrome). The majority of cases were patients with stage IA or IB disease (13 cases, 52%). A smaller subset had stage II-IV disease (Table II). Seven cases (28%) were being treated with systemic approaches.

Individual cases are described in Table II. Of note, 4 patients were hospitalized because of COVID-19, including 2 of the 3 patients with advanced disease (stage III-IV). One of these patients died because of complications from COVID-19 (case 19). The other patient with advanced disease (case 20) experienced an extracorporeal photopheresis treatment delay because of symptoms and visitation policies, suggesting that COVID-19 infection may have indirect effects on CTCL outcomes.

Our retrospective analysis suggests that patients with CTCL, particularly those with advanced disease, are at risk of severe COVID-19. Our study has several limitations, including its small sample size and retrospective design. Given a multitude of factors, including barriers to testing and asymptomatic infections, it is likely that our findings are skewed toward severe disease. Nonetheless, our findings emphasize the importance of risk-reduction counseling for at-risk patient populations, including those with CTCLs.

Table I. Clinical summary of CTCL patients with COVID-19

Demographics	Number of cases (%)
Sex	
Male	13 (52.0)
Female	12 (48.0)
Age, y, median (range)	57.08 (18-88)
Race/ethnicity	
White	20 (80.0)
Black	3 (12.0)
Hispanic	1 (4.0)
Not specified	1 (4.0)
Diagnosis	
MF, NOS	7 (28.0)
Folliculotropic MF	3 (12.0)
MF-LCT	2 (8.0)
MF with leukemic involvement	1 (4.0)
Sezary syndrome	2 (8.0)
$CD4^+$ lymphoproliferative disorder	2 (8.0)
Hypopigmented MF	2 (8.0)
MF with LyP	2 (8.0)
CTCL-NOS	1 (4.0)
Syringotropic MF	1 (4.0)
LyP	2 (8.0)
Duration of disease, mo, mean (range)	55 (1-156)
Stage at COVID-19 diagnosis	
IA/B	13 (52.0)
IIA/B	3 (12.0)
III-IV	3 (12.0)
LyP	2 (8.0)
Quiescent	3 (12.0)
Unavailable	1 (4.0)

LCT, Large cell transformation; *LyP*, lymphomatoid papulosis; *MF*, mycosis fungoides; *NOS*, not otherwise specified.

Table II. Demographics, CTCL disease history, and COVID-19 related outcomes

Case	Age	Sex	Ethnicity	Diagnosis	Stage	Lymphoma treatment	Duration of disease (mo)	Comorbidities	COVID-19 vaccination history	Hospitalization for COVID-19	Complication from COVID-19	Status after COVID-19
1	76	M	White	MF, NOS	IA	Triamcinolone	43	Hypertension, obesity	3 doses	No	N/A	Living
2	35	M	White	MF, NOS	IA	Triamcinolone	36	Asthma, smoking history	0 doses	No	N/A	Living
3	58	F	White	MF, NOS	IA	Clobetasol	121	Hypertension, obesity, smoking history	3 doses	No	N/A	Living
4	67	F	White	MF, NOS	IA	Betamethasone, UV-B phototherapy	Unknown (>20 years)	None	2 doses	Yes	Pneumonia, ARDS	Living
5	58	F	Black	CTCL, NOS	1A	Betamethasone, psoralen—UV-A with methoxsalen	35	Hypertension, obesity, smoking history	0 doses*	No	N/A	Living
6	50	F	White	MF-LyP	IA	Triamcinolone	26	None	0 doses	No	N/A	Living
7	18	M	White	MF -LyP	IA	UV-B phototherapy, desoximetasone	26	None	0 doses*	No	N/A	Living
8	63	F	Black	Hypopigmented MF	IA	Triamcinolone	74	Hypertension, smoking history	0 doses*	No	N/A	Living
9	74	F	White	MF, NOS	IB	Triamcinolone	46	Asthma, smoking history	0 doses*	No	N/A	Living
10	44	M	Hispanic	MF, NOS	IB	Triamcinolone, hydrocortisone, fluocinolone, Vitamin D, prednisone, methotrexate	48	Hypertension, obesity, smoking history	1 dose	Yes	N/A	Living
11	25	M	N/A	Hypopigmented MF	IB	Natural sunlight therapy, Triamcinolone	48	None	0 doses	No	N/A	Living
12	65	F	White	Folliculotropic MF	IB	Targretin, Triamcinolone	72	Hypertension	0 doses*	No	N/A	Living
13	73	M	White	Folliculotropic MF	IB	Clobetasol, triamcinolone, UV-B phototherapy, mupirocin	40	Smoking history	1 dose	No	N/A	Living
14	78	F	White	MF with leukemic involvement	IB	Mogamulizumab, betamethasone, triamcinolone	89	Hypertension	0 doses*	No	N/A	Living
15	49	M	Black	Folliculotropic MF	IIB	Targretin, urea, fluocinonide, triamcinolone	23	Smoking history	3 doses	No	N/A	Living

Continued

Table II. Cont'd

Case	Age	Sex	Ethnicity	Diagnosis	Stage	Lymphoma treatment	Duration of disease (mo)	Comorbidities	COVID-19 vaccination history	Hospitalization for COVID-19	Complication from COVID-19	Status after COVID-19
16	27	F	White	MF-LCT	IIB	Pralatrexate, clobetasol, triamcinolone, UV-B phototherapy	6	None	0 doses	No	N/A	Living
17	57	F	White	MF-LCT	IIB	Mogamulizumab, doxycycline, clobetasol, radiation	72	Obesity, smoking history	2 doses	No	N/A	Living
18	73	M	White	Sezary syndrome	IV	Mogamulizumab, clobetasol, triamcinolone	11	Hypertension	2 doses	Yes	Readmission for delirium	Living
19	88	M	White	MF, NOS	IVA1	Doxycycline, clobetasol, hydroxyzine, ibrutinib	53	Waldenstrom's macroglobulinemia	0 doses*	Yes	Pneumonia	Deceased
20	74	M	White	Sezary syndrome	IV	ECP, triamcinolone	1	COPD, smoking history	3 doses	No	ECP treatment delay	Living
21	74	F	White	Syringotropic MF	Quiescent	Observation	141	Smoking history	0 doses	No	None	Living
22	27	M	White	LyP	N/A	Clobetasol	28	None	2 doses	No	None	Living
23	66	F	White	LyP	N/A	Observation	156	Smoking history	0 doses*	No	None	Living
24	53	M	White	CD4 Lymphoproliferative disease	Quiescent	Observation	52	Diabetes mellitus, kidney transplant, hypertension, obesity	2 doses	No	None	Living
25	55	M	White	CD4 Lymphoproliferative disease	Quiescent	Observation	73	Obesity	0 doses	No	None	Living

ARDS, Acute respiratory distress syndrome; *COPD,* chronic obstructive pulmonary disease; *ECP*, extracorporeal photopheresis; *F*, female; *LCT*, large cell transformation; *LyP*, lymphomatoid papulosis; *M*, male; *MF*, mycosis fungoides; *NOS*, not otherwise specified.
*Infection before vaccine availability.

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Conflicts of interest

None disclosed.

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