Clinical Features and Outcomes of Black Patients with Melanoma - A Case Series from 2006 to 2022

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Introduction

- Melanoma in Black individuals has an annual incidence of approximately 1 in 100,000 people.
- Most studies of melanoma in Black patients use population databases, which lack important, precise clinical details.
- Aim: To characterize features of melanoma development and of poor outcomes in Black patients

Methods

- Retrospective case series at a single-institution of patients who self-reported Black race and had biopsy-proven melanoma
- Patients captured by 1) melanoma registries at UTSW/Parkland that report to Surveillance, Epidemiology, and End Results (SEER) registry sites, and 2) keyword-based queries of pathology reports in Epic
- Measures included: Demographics, clinical characteristics, personal/family medical history, immunosuppression history, comorbidities, histopathology reports, molecular/genetic studies, imaging reports, melanoma treatments/responses, time to progression, metastatic sites, and survival rates

Results

- 48 Black patients with median age 62 years (range 23-86) of 4,732 patients with melanoma at UTSW/Parkland
- Initial diagnoses: 29 (60%) with local disease, 11 (23%) with regional disease, and 4 (8%) with distant disease
- Location of primary: 40 (84%) were cutaneous, 8 (16%) were ocular, mucosal, or MUP. Of the cutaneous melanomas, 30 (75%) occurred on acral sites.
- Immune status: All 4 patients with nodular (n=1) or superficial spreading melanomas (SSM) (n=3) were immunocompromised
- Genetics: 3 of 12 patients were tested for all 3 variants (BRAF, NRAS, c-KIT); 2 were found to be triple negative
- Immunotherapy: 8 of 12 patients treated with immunotherapy did not respond
- Outcomes: 12 patients died/initiated hospice due to metastatic melanoma. This included MUP (n=3), mucosal/ocular melanoma (n=4), and acral melanoma (n=5).

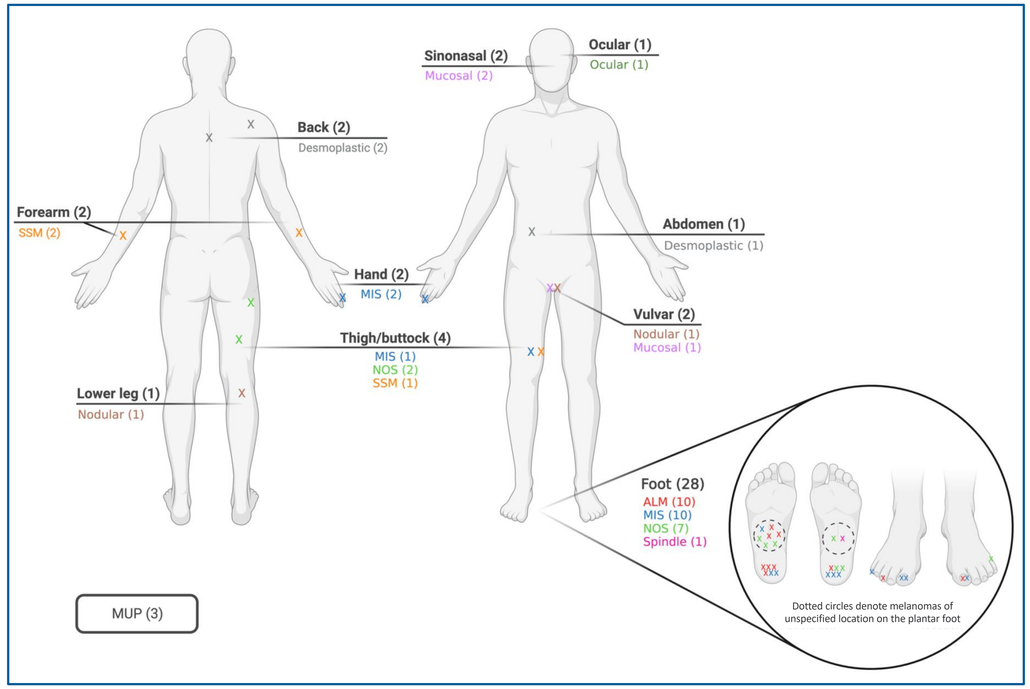

Figure 1. Anatomic distribution of primary melanomas in Black patients by histologic sub-type

Characteristics	Totals	Acral Skin	Non-Acral Skin	Mucosal/Ocular	MUP
Number of patients	48 (100%)	30 (63%)	10 (21%)	5 (10%)	3 (6%)
Age at dx, median (range)	61.5 (23-86)	61.5 (23-86)	65 (40-69)	55 (47-73)	76 (61-83)
Female	30 (63%)	20 (67%)	5 (50%)	3 (60%)	2 (67%)
Male	18 (37%)	10 (33%)	5 (50%)	2 (40%)	1 (33%)
Immunosuppression history					
SCT w/in 5 years of diagnosis	2 (4%)	0 (0%)	2 (20%)	0 (0%)	0 (0%)
HIV with CD4+ < 200 at diagnosis	1 (2%)	0 (0%)	1 (10%)	0 (0%)	0 (0%)
Chemotherapy w/in 12 mo of diagnosis	3 (6%)	1 (3%)	2 (20%)	0 (0%)	0 (0%)
H/o prolonged steroid therapy (>1 yr)	2 (4%)	0 (0%)	2 (20%)	0 (0%)	0 (0%)
Biologic and/or MTX at diagnosis	2 (4%)	1 (3%)	1 (10%)	0 (0%)	0 (0%)
None	42 (88%)	28 (93%)	6 (60%)	5 (100%)	3 (100%)
Personal history of other cancer	13 (27%)	5 (17%)	6 (60%)	2 (40%)	0 (0%)
Histopathologic subtype					
ALM	10 (21%)	10 (33%)	0 (0%)	0 (0%)	ND
Desmoplastic	3 (6%)	0 (0%)	3 (30%)	0 (0%)	
MIS	13 (27%)	12 (40%)	1 (10%)	0 (0%)	
Mucosal	2 (4%)	0 (0%)	0 (0%)	3 (60%)	
Nodular	2 (4%)	0 (0%)	1 (10%)	1 (20%)	
NOS	10 (21%)	7 (23%)	2 (20%)	0 (0%)	
Ocular	1 (2%)	0 (0%)	0 (0%)	1 (20%)	
Spindle	1 (2%)	1 (3%)	0 (0%)	0 (0%)	
SSM	3 (6%)	0 (0%)	3 (30%)	0 (0%)	
Pathologic stage at diagnosis (AJCC 8th)					
Stage 0	13 (27%)	12 (40%)	1 (10%)	0 (0%)	0 (0%)
Stage I	4 (8%)	1 (3%)	3 (30%)	0 (0%)	0 (0%)
Stage II	12 (25%)	6 (20%)	3 (30%)	3 (60%)	0 (0%)
Stage III	11 (23%)	8 (27%)	3 (30%)	0 (0%)	0 (0%)
Stage IV	4 (8%)	0 (0%)	0 (0%)	1 (20%)	3 (100%)
ND	4 (8%)	3 (10%)	0 (0%)	1 (20%)	0 (0%)
Melanoma-specific survival					
6-month	42/45 (93%)	26/27 (96%)	10/10 (100%)	5/5 (100%)	1/3 (33%)
1-year	37/42 (88%)	24/26 (92%)	8/8 (100%)	4/5 (80%)	1/3 (33%)
5-year	21/31 (68%)	14/18 (78%)	5/5 (100%)	2/5 (40%)	0/3 (0%)

Table 1. Clinical and histopathologic characteristics of melanomas in 48 Black patients by anatomic location of primary

Discussion

- SEER data lack precise anatomic locations by grouping primaries on the feet with those on the leg. This study assessed precise anatomic sites and showed that 75% of the cutaneous melanomas were on acral skin.
- Immune status may be associated with specific melanoma subtypes in Black patients, as 40% of patients with non-acral cutaneous melanomas were immunocompromised.
- All patients who developed SSM were immunocompromised and carried a second cancer diagnosis.
- There was a poor systemic therapy response for mucosal and acral melanomas.
- All melanoma deaths were due to advanced tumors on acral skin, mucosal/ocular melanoma, or MUP. These tumors lacked targetable mutations and were resistant to immunotherapy.

Conclusions

- Black patients predominately developed melanomas on acral sites at a higher proportion than reported in population-level data.
- SSM was rare and only observed in immunocompromised Black patients.
- Patients with melanomas in non-acral locations had the most favorable outcomes.
- Patients with advanced acral, mucosal, and MUP had the poorest outcomes.

Acknowledgements

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Abbreviations: AJCC, American Joint Committee on Cancer; ALM, acral lentiginous melanoma; HIV, human immunodeficiency virus; Hx, history; Mo, months; MIS, melanoma in situ; MTX, methotrexate; MUP, melanoma of unknown primary; ND, not determined; NOS, melanoma not otherwise specified; SCT, stem cell transplant; SSM, superficial spreading melanoma

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