Characterization of dermatomyositis and its associated comorbidities in a predominantly black and Hispanic population

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Introduction

- Dermatomyositis (DM) is an autoimmune connective tissue disease associated with the development of malignancy, lung disease, and cardiac disease.
- DM-associated comorbidities are well-characterized in studies involving predominantly white individuals, but are less understood amongst black and Hispanic populations.
- Studies have shown that black and Hispanic populations have worse clinical outcomes and higher comorbidity burden for skin diseases.
- Prior single-institutional studies involving primarily white populations have shown greater involvement of dermatologists in the management of DM patients compared to rheumatologists. However, the distribution of specialist care for minority populations is not well characterized.
- This retrospective cohort study involving predominantly black and Hispanic DM patients aims to characterize comorbidity profiles and to investigate specialist care teams involved in their care.

Methodology

- Patients with an ICD-10 diagnosis of DM were identified using electronic medical records from 2012-2019.
- Records were queried for demographic information as well as clinical characteristics, including lung/cardiac disease, malignancy, temporal relationships of comorbidities, and specialist management.
- P-values were generated using likelihood ratio chi-square.

Results

- 98 patients: 84 with classic DM (CDM) and 14 with clinically amyopathic DM (CADM).
- Race and ethnicity: 30 black (31%), 13 white (13%), 2 Asian (2%), and 43 Hispanic (44%) patients.
- 54 patients had lung involvement; 50 (92.5%) diagnosed within 5 years of DM diagnosis.
- Hispanic patients were more likely than non-Hispanic patients to be diagnosed lung disease concurrently or after DM diagnosis (p <.01).

Results Continued

- 18 patients had cardiac involvement; 12 diagnosed within 5 years of DM diagnosis.
- 15 (83.3%) patients had arrhythmia and 5 (27.8%) had cardiomyopathy.
- 19 patients had malignancy; 14 diagnosed within 5 years of DM diagnosis.
- 45% of patients were followed by a rheumatologist alone, 3% of patients were followed by a dermatologist alone, and 46% were co-managed.
- When stratified by DM subtype, dermatology was involved in the care of only 45% of CDM vs. 85% of CADM patients (p=.04).
- There was no difference in dermatology or rheumatology care by race (p= .05 and p= .17, respectively) or ethnicity (p= .46 and p= .53, respectively).

DEMOGRAPHICS	n	%
Average age at DM Diagnosis	50.0	-
Sex		
Male	22	22.4
Female	76	77.5
Race		
Black or African American	30	30.6
White	13	13.3
Asian	2	2.0
Other	43	43.9
Declined	6	6.1
Ethnicity		
Spanish/Hispanic/Latino	40	40.8
Non-Spanish/Hispanic/Latino	43	43.9
Declined	15	15.3
PROVIDERS	**n**	**%**
Dermatology only	3	3.1
Rheumatology only	45	45.9
Both	45	45.9
COMORBIDITIES	**n**	**%**
Lung involvement	55	56.1
Development within 5 years of DM Diagnosis	50	51.0
Interstitial lung disease	41	74.5
Pulmonary embolism	6	10.9
Other (e.g. vasculitis, COPD)	5	9.1
Cardiac involvement	18	18.4
Development within 5 years of DM Diagnosis		
Arrythmia	15	83.3
Conduction disorder	6	33.3
Arrythmia of atrial origin	7	38.9
Cardiomyopathy	5	27.8
Malignancy	19	19.4
Development within 5 years of DM Diagnosis	14	73.7
Hematologic	4	28.6
Gynecologic	4	28.6
Breast	3	21.4
Gastrointestinal	2	14.3
Lung	1	7.1

Table 1. Summary of patient demographics, specialist care, and comorbidities. *DM*, dermatomyositis.

Figures

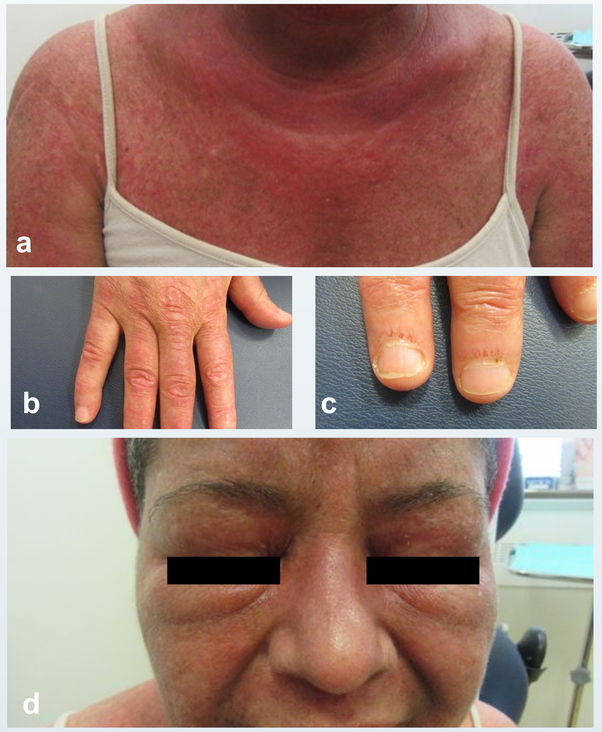

Fig 1. Cutaneous manifestations of dermatomyositis as seen on a Hispanic patient. Photos are courtesy of Dr. Adam Friedman. (a) V-neck sign. (b) Gottron papules. (c) Nailfold changes. (d) Heliotrope rash.

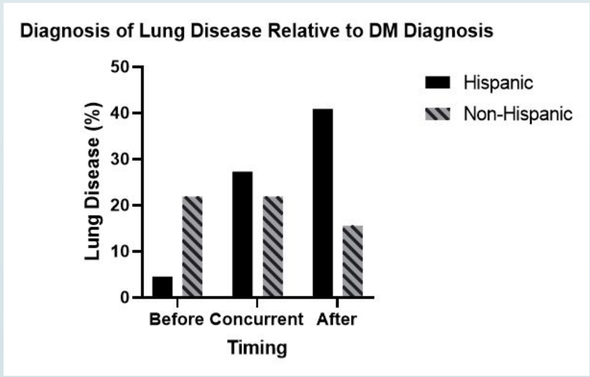

Figure 2. Timing of lung disease diagnosis in relation to dermatomyositis diagnosis in Hispanic versus non-Hispanic patients. *DM*, dermatomyositis.

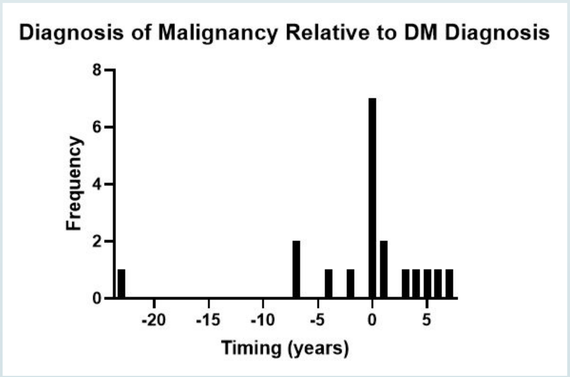

Figure 3. Timing of malignancy diagnosis in relation to dermatomyositis diagnosis. *DM*, dermatomyositis.

Discussion

- Hispanic patients with DM were more likely to be diagnosed with lung disease concurrently or after DM diagnosis--consistent with studies showing lower healthcare utilization and increased disease severity at presentation in minority populations.
- Surprisingly, a majority of black and Hispanic DM patients were not connected with dermatologic care, which may be due to less interdisciplinary familiarity with associated cutaneous manifestations in skin of color.
- Increased coordination of dermatologist care for black and Hispanic DM patients is required to facilitate appropriate diagnosis and optimal management.
- More robust studies are needed to analyze the relationship between DM and its associated comorbidities on disease outcomes in black and Hispanic populations.
- Further studies are warranted to characterize whether the type of provider involvement in minority DM patients affect disease burden and outcomes.

References

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