

# Evaluating Potential Prognostic Information of Cutaneous Sarcoidosis among Patients with Cardiac Sarcoidosis: A Retrospective Review of 102 Patients



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## Background

- Sarcoidosis is a chronic granulomatous disease that impacts any organ.
- Skin sarcoid occurs in roughly 30% of patients.<sup>1,2</sup>
- Specific lesions of skin sarcoidosis may offer important prognostic insights into systemic disease.
- Research reveals a high risk of cardiac sarcoidosis among Black patients; it is unclear if specific skin lesions are associated with cardiac disease.<sup>3</sup>

## Methods

- IRB-approved retrospective review of cutaneous sarcoidosis at NYU Langone Health from 2000-2022.
- Biopsy-proven sarcoidosis and involvement of  $\geq 2$  organs, including skin, were required for inclusion.
- Demographics, morphology of cutaneous sarcoidosis, history of cardiac sarcoidosis were obtained from charts.
- Patients were stratified by diagnosis of cardiac sarcoidosis.  $\chi^2$  and independent samples T-tests were performed for data analysis.

**Table 1. Cutaneous Manifestations**

	Cardiac (n=14)	Non-cardiac (n=93)	p-value
Macules	4 (28.6%)	11 (11.8%)	0.093
Papules	8 (57.1%)	36 (38.7%)	0.191
Plaques	6 (42.9%)	30 (32.2%)	0.434
Patches	3 (21.4%)	14 (15.1%)	0.543
Nodules	5 (35.7%)	27 (29.0%)	0.611
Subcutaneous	0 (0%)	9 (9.7%)	0.224
Lupus Pernio	1 (7.1%)	12 (12.9%)	0.539
Erythema Nodosum	2 (14.3%)	6 (6.5%)	0.299
Atrophy	3 (21.4%)	7 (7.5%)	0.096
Erythema	4 (28.6%)	31 (33.3%)	0.723
Hyperpigmentation	4 (28.6%)	23 (24.7%)	0.758
Hypopigmentation	2 (14.3%)	8 (8.6%)	0.496
Annular	1 (7.1%)	7 (7.5%)	0.959
Alopecia	1 (7.1%)	6 (6.5%)	0.922
Panniculitis	1 (7.1%)	2 (2.2%)	0.291
Scar Sarcoidosis	0 (0%)	2 (2.2%)	0.58
Tattoo Sarcoidosis	0 (0%)	10 (10.8%)	0.198
Unspecified Rash	8 (57.1%)	42 (45.2%)	0.402
Scaling	2 (14.3%)	15 (16.1%)	0.86

**Table 2. Assessing differences in cutaneous lesion location between cardiac and non-cardiac sarcoid patients**

	Cardiac(n=14)	Non-cardiac (n=93)	p-value
Head/Face	9 (64.3%)	59 (63.4%)	0.951
Neck	2 (14.3%)	11 (11.8%)	0.793
Chest	2 (14.3%)	8 (8.6%)	0.496
Abdomen	0 (0%)	7 (7.5%)	0.288
Back	1 (7.1%)	21 (22.6%)	0.183
Arms	4 (28.6%)	33 (35.5%)	0.612
Legs	5 (35.7%)	26 (28.0%)	0.551
Neurologic	0 (0%)	1 (1.1%)	0.697
Ocular	2 (14.3%)	12 (12.9%)	0.886
Extra thoracic	0 (0%)	1 (1.1%)	0.697
Lymphadenopathy			
Other Location	2 (14.3%)	12 (12.9%)	0.886
Unspecified	1 (7.1%)	37 (39.8%)	0.017

## Results

- Of 102 patients meeting sarcoidosis criteria (F: 71.6%, mean age: 57.9 yrs), 14 (13.7%) had cardiac sarcoidosis.
- No differences in demographics, morphology or location of cutaneous sarcoid in patients with versus without cardiac sarcoid were identified.
- Patients with cardiac sarcoid had higher burden of  $\geq 3$  organ disease (14 (100%) v 30 (34.1%);  $p < 0.001$ ).

## Conclusions

- Sarcoidosis skin lesions may not hold prognostic information for cardiac disease.
- Dermatologists should ensure all patients with cutaneous sarcoidosis obtain screening ECGs with cardiology referral as indicated.
- Limitations include a small sample size and limited exam descriptions on retrospective review.

## References

1. Ezeh N, Caplan A, Rosenbach M, Imadojemu S. Cutaneous Sarcoidosis. *Dermatol Clin.* 2023;41(3):455-70.
2. Caplan A, Rosenbach M, Imadojemu S. Cutaneous Sarcoidosis. *Semin Respir Crit Care Med.* 2020 Oct;41(5):689-699. doi: 10.1055/s-0040-1713130. Epub 2020 Jun 27.
3. Kassamali B, Villa-Ruiz C, Kus KJB, et al. Increased risk of systemic and cardiac sarcoidosis in Black patients with cutaneous sarcoidosis. *J Am Acad Dermatol.* 2022;86(5):1178-1180.