



Tattoo Sarcoidosis

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TATTOO SARCOIDOSIS

A 39-year-old man with history of reflux disease and hyperlipidemia presented to the hospital with subjective fevers, night sweats and chest pain for five days. Two months prior to admission, he developed submandibular lymphadenopathy, periorbital edema, and induration of his tattoo lines ([Figure 1](#)). He was referred to a dermatologist who performed a skin biopsy that revealed non caseating granulomas suggestive of possible sarcoidosis. In the hospital, his vitals were normal. Chest Xray did not show evidence of hilar or mediastinal lymphadenopathy. His labs revealed elevated high sensitivity troponin levels up to 3998 ng/ml along with elevated C3 and C4 levels. An extensive rheumatologic workup including angiotensin converting enzyme was unremarkable. An echocardiogram was done that showed moderately reduced left ventricular systolic function with ejection fraction of 40%. A cardiac MRI was done that only showed a small focus of transmural enhancement in the mid ventricular anterolateral segment. He was diagnosed with nonspecific myocarditis with clinical improvement with colchicine. He was discharged home with outpatient cardiology and rheumatology follow-up.

Sarcoidosis is a chronic, multisystem inflammatory disorder of unknown etiology, characterized by infiltration by noncaseating granulomata resulting in functional impairment of affected organs. Sarcoidosis predominantly affects the lungs and thoracic lymph nodes, but the skin is the second most frequently involved organ. Skin involvement occurs in about 20-30% of cases; the presentation is variable.¹ There is no direct correlation between skin involvement and the severity of systemic sarcoidosis. Cutaneous sarcoidosis falls under two major categories.

Abstract

Sarcoidosis is a chronic, multisystem inflammatory disorder of unknown etiology. Skin involvement occurs in about 20-30% of cases. We describe a young man with fevers, night sweats and chest pain who was eventually diagnosed with cutaneous sarcoidosis.

1. Specific lesions associated with the presence of non-caseating granulomata.
2. Non-specific reactive inflammatory response as seen in cases of erythema nodosum and calcinosis cutis.

Cutaneous sarcoidosis can be the initial presenting sign of this condition or develop later in the disease. The disease has varying clinical manifestations and patterns due to many factors, including race, ethnicity, and gender.²

Cutaneous lesions include³:

1. Lupus Pernio
2. Maculopapular
3. Nodular
4. Erythema nodosum in isolation or as a component of Lofgren's syndrome
5. Scar Sarcoidosis
6. Subcutaneous variant- also known as Darier-Roussey variant.
7. Less common forms include Angiolupoid – also known as Brocq-Pautrier angiolupoid Psoriasiform, Verrucous, Erythrodermic, Ulcerative, and Ichthyosiform variants.

Scar sarcoidosis can occur in sites of prior injuries, or tattoos. Scar involvement is rare but characteristic of cutaneous sarcoidosis. These lesions may develop between 6 months and up to 5 decades at sites of prior trauma. The presentation may mimic an acute inflammatory response with lesions being erythematous, scaly, and itchy or have a subacute onset.

Tattoo sarcoidosis occurs more frequently with red ink (cinnabar) tattoos but can also be seen with other forms of pigment. Lip and eyebrow lesions have been reported. Scar sarcoidosis may be misdiagnosed as keloids,



Figure 1. Induration of tattoo lines on the forearm

and since both conditions may respond to intralesional steroids, the diagnosis may be missed if lesions are not biopsied. Koebnerization may occur in cases of Scar sarcoidosis resulting in lesions developing at venipuncture sites and sites of IV injections.

All cases of Scar sarcoidosis require evaluation to exclude systemic disease. The management depends on whether this is an isolated cutaneous sarcoidosis or part of a systemic disease. In the evaluation for systemic illness, it should be noted that the “Scar sign” - scars due to sarcoidosis are FDG-Avid and light up on PET/CT scans.⁴ Cutaneous lesions are usually managed with topical steroids, or in more severe cases, prednisone, Methotrexate, or laser therapy may be needed.

Author Contributions

All Authors have reviewed the final manuscript prior to submission. All the authors have contributed significantly to the manuscript, per the ICJME criteria of authorship.

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Disclosures/Conflicts of Interest

The authors have no conflicts of interest to disclose.

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