

# Micropapular Cutaneous Sarcoidosis: Case Series Successfully Managed With Hydroxychloroquine Sulfate

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*Micropapular lesions constitute a rare morphologic variety of cutaneous sarcoidosis. We report 3 patients with this unusual entity and highlight the universal suppressive response to oral hydroxychloroquine sulfate. Although ocular involvement has been found to be common in conjunction with micropapular cutaneous sarcoidosis, none of our patients had demonstrable eye disease.*

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Sarcoidosis is a multisystem disorder of unknown etiology, affecting the skin in up to one third of patients.<sup>1</sup> Cutaneous sarcoidosis exhibits a variety of morphologies, with one of the rarer forms presenting as micropapules. Less than a dozen cases of micropapular cutaneous sarcoidosis have previously been described in the readily available medical literature, mostly treated with oral corticosteroids.<sup>2-8</sup> We present 3 patients with micropapular cutaneous sarcoidosis who demonstrated rapid clinical response to oral hydroxychloroquine sulfate, supporting the recent proposal for the use of antimalarial agents as first-line therapy in this clinical setting.<sup>9</sup> The patients are summarized in the Table.

## Case Reports

**Patient 1**—A 28-year-old black man presented with acute onset of a rash on his hands, arms, and chest. Further discussion revealed he occasionally experienced shortness of breath. His prior medical and family history was unremarkable. On physical examination, he had innumerable close-set 1- to 2-mm micropapules on his trunk and upper extremities (Figure 1). No lesions were noted on

the face or other areas of the body. Chest x-ray results revealed marked hilar lymphadenopathy. Angiotensin-converting enzyme (ACE), calcium, and IgG levels were within reference range. Findings from the ophthalmologic examination did not reveal any abnormalities. Several biopsy specimens of skin lesions revealed noncaseating epithelioid granulomas located in the upper dermis. Results of stains for acid-fast bacillus and fungus were negative. Clinicopathologic correlation led to the diagnosis of micropapular cutaneous sarcoidosis with benign pulmonary involvement. The patient was treated with hydroxychloroquine sulfate 200 mg twice daily, leading to clearing of the lesions after 2 months. However, lesions recurred when hydroxychloroquine sulfate was discontinued.

**Patient 2**—A 30-year-old black woman with no prior medical or family history of skin disease presented with a gradual onset of small bumps on her face, neck, and lips. Skin examination demonstrated numerous 1- to 2-mm micropapules scattered over the face and neck, with increased prominence over the upper lip (Figure 2). Results of a chest x-ray revealed marked hilar lymphadenopathy, but results of pulmonary function tests were unremarkable. Findings from laboratory tests for ACE, calcium, and IgG levels were within reference range. A routine yearly ophthalmologic evaluation performed approximately 6 months prior to presentation was unremarkable. A biopsy specimen confirmed noncaseating dermal epithelioid granulomas, and results of stains for acid-fast bacillus and fungus were negative. Complete resolution was achieved with hydroxychloroquine sulfate 200 mg twice daily after 3 months. Lesions returned soon after cessation of therapy.

**Patient 3**—A 34-year-old black woman presented with acute onset of bumps on her face and lips. A family history revealed a sister with sarcoidosis involving the skin and bones. On physical examination,

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## Summary of Patient Presentation and Response to Therapy

Patient No.	Sex/Age, y	Distribution of Lesions	Chest X-ray Results	ACE, Calcium, and IgG Levels	Response to Hydroxychloroquine Sulfate
1	Male/28	Hands, arms, chest	Marked hilar lymphadenopathy	Within reference range	Clearance after 2 mo
2	Female/30	Face, neck, lips	Marked hilar lymphadenopathy	Within reference range	Clearance after 3 mo
3	Female/34	Face, lips	Mild bilateral hilar lymphadenopathy	Within reference range	Initial clearance; lost to follow-up

Abbreviation: ACE, angiotensin-converting enzyme.

a very small number of subtle micropapules were observed on the lips (particularly at or near the labial commissure) and face (Figure 3). Results of a chest x-ray delineated mild bilateral hilar lymphadenopathy without parenchymal abnormality. Findings from laboratory tests for ACE, calcium, and IgG were within reference range. The patient failed to present for ophthalmologic examination. A skin biopsy specimen demonstrated typical sarcoid granulomas, with negative results of special stains. She was treated with hydroxychloroquine sulfate 200 mg twice daily and achieved initial clearing but was subsequently lost to follow-up.

### Comment

Sarcoidosis is a systemic disease of unknown etiology characterized by granulomatous inflammation affecting multiple organ systems, including the skin. Often referred to as the “great imitator,”<sup>1</sup> sarcoidosis may present in virtually any fashion, making it difficult to diagnose. Diagnosis can be made by demonstrating noncaseating granulomas in involved tissues, only after excluding other possible causes.<sup>1,10</sup>

Cutaneous involvement occurs in approximately 25% to 30% of patients and may manifest at any stage of the disease, most commonly at onset. Cutaneous lesions are widely varied in appearance, with more common presentations including lupus pernio, maculopapules, plaques, and subcutaneous nodules; erythema nodosum may simultaneously occur. Rarer morphologies include ulcerative, hypopigmented, ichthyosiform, psoriasiform, verrucous, and micropapular lesions.<sup>1,2,10</sup>

All 3 patients described in this report presented with similar clustered 1- to 2-mm micropapules. The major clinical differential diagnosis included micropapular cutaneous sarcoidosis, lichen nitidus (LN), generalized papular granuloma annulare (GA), and lichen scrofulosorum. LN and generalized papular GA have been ruled out based on histologic findings.<sup>2,4,10</sup> Although both conditions clinically present as clusters of pinpoint flesh-colored papules, biopsy specimens of LN classically reveal a well-circumscribed area of lymphohistiocytic infiltrate in the papillary dermis, described as a ball-in-claw appearance,<sup>4,11</sup> and histologic examination of GA lesions reveals mixed lymphohistiocytic infiltrate with collagen degeneration.<sup>2</sup>

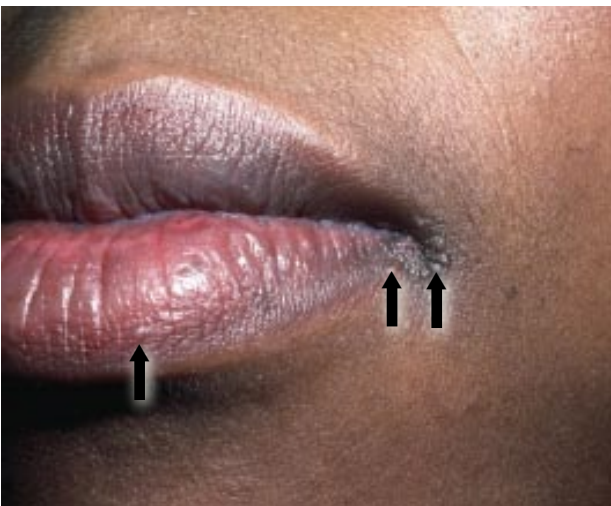
The distinction between lichen scrofulosorum and micropapular cutaneous sarcoidosis is slightly more difficult, however, as both of these conditions portray circumscribed granulomatous infiltrate on histology. Clinically, lichen scrofulosorum tends to occur in young children with active tuberculosis, presenting as scaly papules that often group into plaques around hair follicles. Histologically, however, lichen scrofulosorum is nearly identical to micropapular cutaneous sarcoidosis, with both showing noncaseating granulomas in the superficial dermis. Closer examination of lichen scrofulosorum reveals a unique distribution of granulomas around the hair follicles and eccrine ducts.<sup>2,4,10</sup> Aside from histologic differentiation, demographic distinctions can be easily drawn. For example, lichen scrofulosorum is a pediatric disorder, while sarcoidosis is uncommon in children. Notably, our 3 patients were adults.



**Figure 1.** Multiple micropapules on the dorsal hand (patient 1).



**Figure 2.** Multiple micropapules concentrated on the upper lip (patient 2).



**Figure 3.** Subtle micropapules (arrows) at the labial commissure and vermilion border (patient 3).

While all of these conditions must be considered in the differential diagnosis, our patients are most clearly consistent with micropapular cutaneous sarcoidosis based on morphology, histology, and demographic characteristics. Micropapular sarcoidosis is a rare form of cutaneous sarcoidosis, with acute onset in the form of uniformly grouped, pinpoint papules. Most cases previously reported occurred in white individuals and all exhibited a good prognosis without a tendency to scar. In this case series, as is common in the southern United States, all 3 patients were black. Although common in other forms of cutaneous sarcoidosis, systemic involvement is rare with the micropapular variant,<sup>2-6</sup> as demonstrated in our 3 patients. However, according to the limited medical literature, ocular involvement tends to occur more frequently.<sup>2,4,10</sup> Despite this seeming trend, findings from ophthalmologic examination in 2 of our patients did not reveal any abnormalities.

Management of cutaneous sarcoidosis, including the micropapular type, may be difficult, as lesions can be refractory to treatment or may reappear after discontinuation of successful therapy.<sup>1,9,12</sup> While corticosteroids are widely accepted as the standard therapy for disfiguring cutaneous sarcoidosis, the basis for their use is largely anecdotal; they have not been evaluated by randomized, double-blind, placebo-controlled trials. Given that chronic corticosteroid therapy carries a risk of many potential side effects and some cases remain recalcitrant, Badgwell and Rosen<sup>9</sup> recently advocated the use of antimalarial agents as first-line therapy for cutaneous sarcoidosis. Adherent to this proposal, our patients were all treated with the antimalarial agent hydroxychloroquine sulfate and all 3 patients achieved clinical clearing. Our success in treatment of these cases of micropapular cutaneous sarcoidosis with hydroxychloroquine sulfate lends support to the recommendation of antimalarial agents as first-line therapy. Of course, all treatment of sarcoidosis should be considered suppressive rather than curative. Follow-up was available for 2 patients in our case series and both experienced disease flares when medication was discontinued. Further study is needed to objectively evaluate the comparative efficacy of corticosteroids and antimalarial agents, as well as other proposed interventions, in the treatment of cutaneous sarcoidosis.

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