

Mechanic's Hands Imitating Hand Eczema

To the Editor:

Skin symptoms can be a diagnostic clue to a systemic disease. "Mechanic's hands" refers to characteristic hyperkeratotic lesions on the hands, part of the antisynthetase syndrome with antibodies against histidyl-tRNA synthetase (anti-Jo1 antibodies). We present a patient with mechanic's hands that imitate hand eczema.

A 67-year-old woman was referred because of presumed hand eczema. She complained of roughness and cracking of the skin on several fingers, symptoms that did not respond to treatment with topical corticosteroids and moisturizers. For 1 year, she had suffered from general fatigue, intermittent fever, widespread arthralgias, and tenosynovitis. Additionally, she had persistent pulmonary symptoms with cough and dyspnea. High-resolution computed tomography and positron emission tomography showed diffuse interstitial infiltrates, but biopsy specimens from the lung and mediastinal lymph nodes were without signs of malignancy or specific inflammatory disease. Liver, bone marrow, and salivary gland biopsy specimens were normal, and the results of abdominal and gynecologic examinations were normal. Blood samples showed elevated C-reactive protein, erythrocyte sedimentation rate, creatinine kinase 301 U/L (35–200 U/L), and positive Ro/SSA autoantibodies, but normal antinuclear antibodies (ANAs), antineutrophil cytoplasmic autoantibodies (ANCA), rheumatoid factor, cryoglobulin, and *Borrelia* and scleroderma antibodies.

Objective examination revealed a slight to moderate edema of the fingers with a violaceous discoloration. The radial surfaces of her fingers and finger pulps were hyperkeratotic with fissures and cuticular overgrowth and tortuous capillaries in her nailfolds (Fig 1). A skin biopsy specimen showed nonspecific hyperorthokeratosis, acanthosis, and a sparse lymphocytic infiltrate. Patch testing revealed no positive reactions.

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Mechanic's hands were suspected on the basis of clinical features. Serologic testing for anti-Jo1 antibodies came out positive. The patient showed a remarkable clinical improvement of skin and joint symptoms and remission of lung infiltrates and constitutional symptoms after therapy with prednisolone (25 mg daily) and azathioprine (150 mg daily).

The patient was diagnosed with antisynthetase syndrome, based on mechanic's hands, noninfectious lung infiltrates, remitting fever, non-erosive arthritis, elevated muscle enzymes, and anti-Jo1 antibodies.

Mechanic's hands were first noticed by Neil Stahl and co-workers in 1979, who described hyperkeratotic changes on the hands or feet, usually over the finger tips and radial sides of the fingers, similar to findings in manual workers.^{1,2} Antisynthetase syndrome was defined in 1990 with the characteristic clinical features of myositis, interstitial lung disease, arthritis, Raynaud's phenomenon, sclerodactyly, and anti-Jo1 antibodies.³ Later, other features—including constitutional symptoms with fever, asthenia, weight loss, and mechanic's hands—were added.⁴ Commonly, hyperkeratosis and fissures are seen on the



Figure 1. Top, Mechanic's hands with hyperkeratosis, fissuring, cuticular overgrowth, and, bottom, tortuous capillaries in a 67-year-old woman with antisynthetase syndrome.

palmar and lateral aspects of the fingers, as well as periungual telangiectasias and cuticular overgrowth. Mechanic's hands is not confined to antisynthetase syndrome but may also be found in other connective-tissue diseases such as dermatomyositis.¹ Hand eczema is the most obvious differential diagnosis. The histopathologic findings are nonspecific.

Treatment is not standardized but includes long-term glucocorticoids and other immunosuppressive drugs. Topical corticosteroid therapy for the cutaneous involvement may be successful, although there are very few reports in the literature.

In conclusion, mechanic's hands should be considered in patients with hyperkeratotic and fissured finger lesions without a typical occupational exposure if general symptoms and signs are present. Tests for anti-Jo1 antibodies should be done routinely in this patient group.

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References

1. Stahl NI, Klippel JH, Decker JL. A cutaneous lesion associated with myositis. *Ann Intern Med* 1979;91:577-9.
2. Bachmeyer C, Tillie-Leblond I, Lacert A, et al. "Mechanic's hands": a misleading cutaneous sign of the antisynthetase syndrome. *Br J Dermatol* 2007;156:192-4.
3. Marguerie C, Bunn CC, Beynon HL, et al. Polymyositis, pulmonary fibrosis and autoantibodies to aminoacyl-tRNA synthetase enzymes. *Q J Med* 1990;77:1019-38.
4. Imbert-Masseau A, Hamidou M, Agard C, et al. Antisynthetase syndrome. *Joint Bone Spine* 2003;70:161-8.