

Crusted scabies in a patient with methamphetamine abuse



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INTRODUCTION

Crusted scabies is a rare, severe, and highly contagious infestation caused by *Sarcoptes scabiei* var. *hominis*. It typically occurs in patients with cognitive or neurologic disorders or in patients who are immunocompromised, including those with HIV, malignancies, immunosuppressive drug use, chronic kidney disease, and those with advanced age.^{1,2} To our knowledge, there are no previous reports of crusted scabies occurring in patients with methamphetamine use. The author reports the case of a man using methamphetamine successfully treated with topical benzyl benzoate and oral ivermectin.

CASE REPORT

A 38-year-old Asian man with a 20-year history of substance abuse with methamphetamine and heroin, presented with a 1-year history of a generalized pruritic eruption that began on the trunk and extremities. The patient sought treatment at a different hospital and was told that results of complete blood count, comprehensive metabolic panel, and skin biopsy were normal. He was then treated with an oral antihistamine, topical and systemic antibiotics, and moderate-potency topical corticosteroids; however, his symptoms remained unchanged.

A physical examination found generalized erythematous, lichenified plaques with erosions on the trunk, neck, genitals, and extremities and lichenified plaques within the first web space of both hands (Fig 1).

Laboratory tests found hemoglobin of 15.4 g/dL, hematocrit of 46%, white blood cell count of



Fig 1. A greenish lichenified plaque on the first web space of the right hand.

11,940 cells/mm³ (neutrophils, 48%; lymphocytes, 28%; eosinophils, 20%; monocytes 4%), platelet count of 341,000 cells/mm³; and urinary benzodiazepines of 7,021.23 μg/L. Urinary methamphetamine test was positive, a urinary opiate test was negative, and the HIV antibody test was negative. The Gram stain from an erosion with overlying crust on the right leg was positive for gram-positive and gram-negative bacilli, and the culture was positive for *Acinetobacter baumannii*, *Corynebacterium spp.* and *Shewanella algae*. Microscopic examination of web space scrapings taken from the right hand showed numerous eggs, larval, and adult stage of mites (Fig 2, A and B).

The patient was treated with a combination of ivermectin, 12 mg on days 1, 2, 8, 9, and 15, and a 25% concentration of benzyl benzoate solution on the neck downward each night for more than a week. Within 2 weeks, the lesions had completely resolved.

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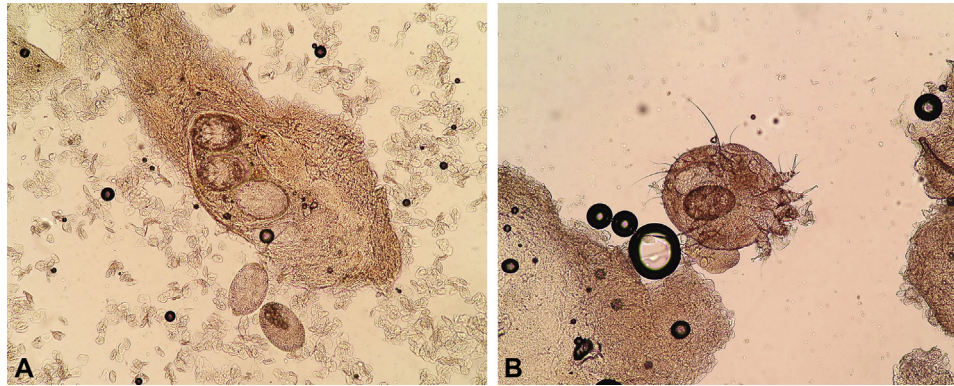


Fig 2. Microscopic examination. **A**, numerous eggs, larval stage of mites. **B**, female adult mite.

DISCUSSION

Scabies is a neglected tropical disease designated by the World Health Organization in 2017.³ The burden of illness estimated in disability-adjusted life-years is greater in tropical regions in children, adolescents, and the elderly.⁴ Crusted scabies, a rare and severe form, is highly contagious because of the high mites burden within the epidermis.⁵ The clinical characteristics include widespread hyperkeratotic plaques with yellowish-greenish crusts, and the disease can be found on the torso, extremities, face, and scalp.^{2,5} Secondary bacterial infections, including impetigo, are the most common complication of scabies.⁶

Definitive diagnosis requires identification of mites, eggs, or scybala under microscopic examination. Standard therapy for crusted scabies is a combination of a topical scabicide and oral ivermectin.²

The author reports the case of a man using methamphetamine. The possible explanation might be an immunocompromised state resulting from methamphetamine use. Methamphetamine is a potent, addictive central nervous system stimulant associated with neurologic consequences.⁷ It effects on the immune system, both of innate and adaptive immunity.^{7,8} The number of cellular components including macrophages, natural killer, and dendritic cells, monocytes, and granulocytes are reduced.⁸ It also suppresses adaptive immunity by altering T-cell

populations and weakened function.⁷ Patients with chronic methamphetamine use have increased the risk for infections including methicillin-resistant *Staphylococcus aureus*, HIV, hepatitis B and C virus, opportunistic fungi, and sexually transmitted disease.^{7,8} To the best of our knowledge, this is the first case of crusted scabies in a patient with chronic methamphetamine abuse.

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