Images in Rheumatology

Chronic Arsenic Poisoning Mimicking Gottron's Rash

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A 28-year-old male farmer presented with generalized weakness, anemia requiring blood transfusion, diffuse hyperpigmentation, and thickening of the skin of palms and soles for the past 2 years. He also had pyrexia of 100–101°F and diffuse abdominal pain with nonbilious vomiting for the last 2 months. There was no history of accidental exposure to any toxin or insecticide or any seafood intake.

Examination revealed patchy alopecia, severe pallor, no jaundice, normal blood pressure, no oral hyperpigmentation or ulcers. There was a diffuse macular "rain-drop" hyperpigmentation, especially over the face, trunk and legs, palmoplantar and subungual hyperkeratosis with fissuring of the palms and soles (Figure 1), nail discoloration, and dystrophy. A "Gottron's"-like rash was present over the knuckles (Figure 2). There was no proximal muscle weakness. Examination of other systems was unremarkable.

Investigations revealed hemoglobin 2.2 g/dl; total leukocyte count 1900/mm^3; differential leukocyte count: polymorphonuclear leukocytes were 78%, lymphocytes were 18%, eosinophils were 2%, monocytes were 2%; platelet count was 31,000/mm^3; corrected reticulocyte count 1%; serum bilirubin 1 mg/dl, serum ALT 56 IU/l, serum AST 72 IU/l, serum ALP 62 IU/l, serum albumin 3.1 g/dl. Serum lactate dehydrogenase, creatine kinase, and urine examination were normal. Bone marrow examination revealed trilineage hypoplasia. Electromyography and nerve conduction velocity were normal. Antinuclear antibody was positive at 1:40 dilution and revealed a speckled pattern. Anti-dsDNA antibody was negative and complements were within normal limits. Scraping of skin of palms and soles was negative for fungal elements.

In view of characteristic rain-drop hyperpigmentation, palmoplantar hyperkeratosis with nail dystrophy, alopecia, and pancytopenia, a possibility of arsenic toxicity was entertained. Twenty-four hour urinary arsenic levels were 314 µg/day (normal < 50 µg/day). Arsenic concentrations in the hair were 1.653 µg/g (normal 0.0–0.9 µg/g). Thus, we were able to confirm the diagnosis of arsenic poisoning.

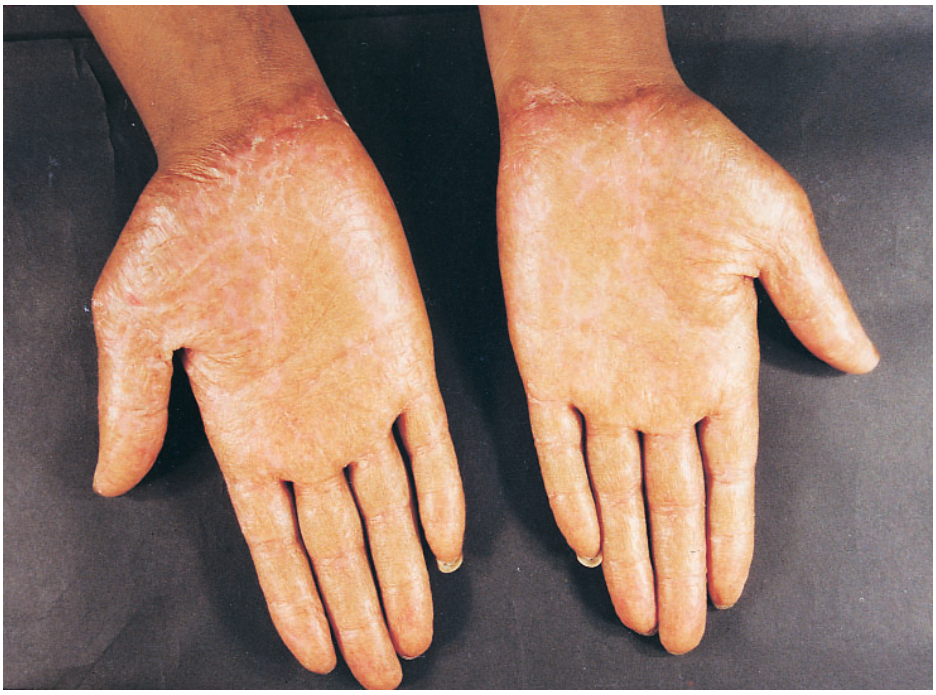

Figure 1. The patient had hyperkeratosis and fissuring of the hands.

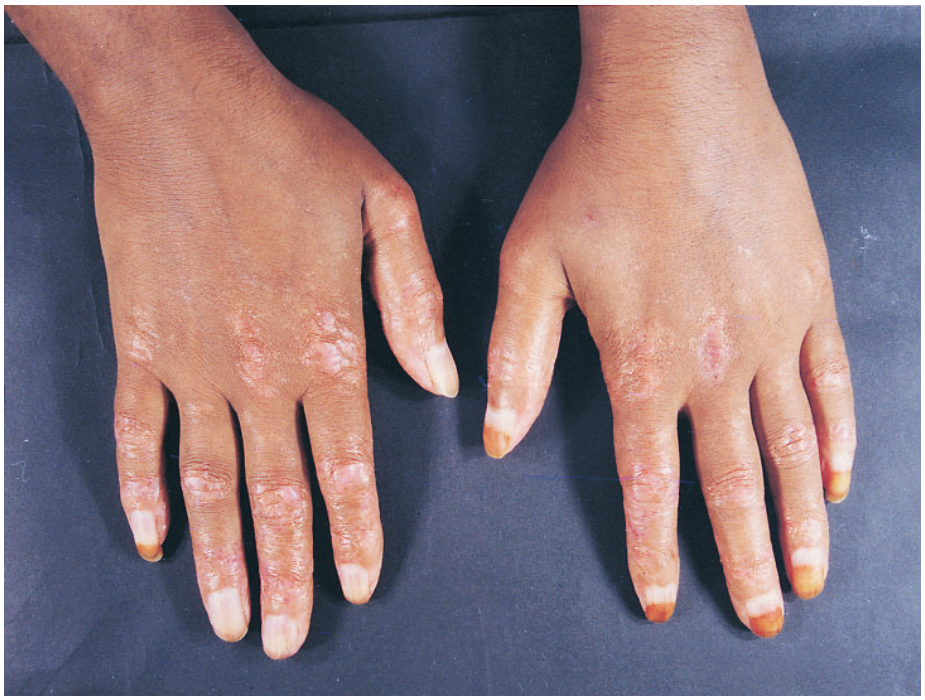

Figure 2. Both hands showed hypopigmentation and shiny, macular lesions over the knuckles and fingers mimicking Gottron's rash.