

Black Linear Streaks on the Face With Pruritic Plaques on the Trunk and Arms

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A 68-year-old man presented to the emergency department with pruritic, edematous, pink plaques on the trunk and arms, as well as black linear streaks on the face, prompting dermatology consultation for possible tissue necrosis. The patient reported working outdoors in his garden 3 days prior to presentation.

What's the diagnosis?

- a. cryoglobulinemia
- b. levamisole toxicity
- c. self-inflicted excoriations
- d. tick-bite reaction
- e. *Toxicodendron* dermatitis

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The Diagnosis: *Toxicodendron* Dermatitis

T*oxicodendron* dermatitis is an allergic contact dermatitis that can occur after exposure to a plant from the *Toxicodendron* genus including poison ivy (*Toxicodendron radicans*), poison oak (*Toxicodendron diversilobum*), and poison sumac (*Toxicodendron vernix*). These plants produce urushiol in their oleoresinous sap, which causes intense pruritus, streaks of erythema, and edematous papules followed by vesicles and bullae. Previously sensitized individuals develop symptoms as quickly as 24 to 48 hours after exposure, with a range of 5 hours to 15 days.¹⁻³ Rarely, black spots also can be found on the skin, most prominently after 72 hours of exposure.⁴

The color change of urushiol-containing sap from pale to black was first documented by Peter Kalm, a Swedish botanist who traveled to North America in the 1700s.⁵ The black-spot test can be used to identify *Toxicodendron* species because the sap will turn black when expressed on white paper after a few minutes.⁶ Manifestation of black lacquer streaks on the skin is rare because concentrated sap is necessary, which typically requires an unusually prolonged exposure with *Toxicodendron* plants.⁷

Without treatment, typical *Toxicodendron* dermatitis resolves in approximately 3 weeks, though it may take up to 6 weeks to clear.² Early intervention is critical, as urushiol will fully absorb after 30 minutes.² After contact, complete removal of the oleoresin by washing with mild soap and water within 10 minutes can prevent dermatitis. Early topical corticosteroid application can reduce erythema and pruritus. Extensive or severe involvement, which includes *Toxicodendron* dermatitis with black spots, is treated with systemic corticosteroids such as prednisone that is tapered over 2 to 3 weeks.¹

Our patient had classic findings of *Toxicodendron* dermatitis; however, initially there was concern for levamisole toxicity by the emergency department, as well-demarcated purpuric or dark skin lesions can be

due to morbid conditions such as leukocytoclastic vasculitis or skin necrosis from drug toxicities or infectious etiologies. Dermatology was consulted and these concerns were alleviated on closer skin examination and further questioning. The patient reported that he spent several hours cutting brush that was known to be *T vernix* (poison sumac) 3 days prior to presentation. Interestingly, the patient did not have similar black streaks on the left side of the face, as he held the weed-trimming saw in his right hand and in effect protected the left side of the face from debris. Furthermore, he had pruritic erythematous plaques on both forearms. The facial black lacquer-like streaks were the result of urushiol oxidation in the setting of prolonged exposure to the poison sumac oleoresin sap during weed trimming. After dermatologic evaluation, the patient was discharged from the emergency department on a 15-day taper of oral prednisone, and he was instructed to wash involved areas and exposed clothing with soap and water, which led to complete resolution.

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