Vasculitic Rash Caused by Levamisole-Adulterated Cocaine

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CASE PRESENTATION

A 71-year-old white male presented to the emergency department with several days of a gradually spreading rash [**Figure 1A–F**]. He reported a similar eruption 2 years prior that resolved with supportive care and abstinence from cocaine. He endorsed recent resumption of cocaine use. The current rash was a painful, non-blanching, palpable purpuric rash. Initially, the rash developed on his ventral forearms and medial thighs but spread to involve his hands and torso over several days. His mucous membranes were spared.

During the present episode, laboratory studies were largely unrevealing apart from an elevated ESR and CRP. Neutropenia was not present. Urinalysis showed microscopic hematuria and proteinuria, concerning for renal involvement.

Although no definitive confirmatory testing was performed, such as lab analysis for levamisole, the suspected etiology was levamisole-adulterated cocaine causing this characteristic leukocytoclastic vasculitis. This most likely diagnosis was supported by the patient's resumed cocaine use and a prior episode also in the setting of cocaine.

The patient was admitted to the hospital for supportive care. He improved clinically over several days and was discharged home. He was counseled regarding the importance of avoiding re-exposure to levamisole-laced cocaine.

Figure 1. Painful, non-blanching, purpuric rash on the [**A**] abdomen, [**B,C**] left and right thighs, [**D,E**] bilateral lower legs and feet, and [**F**] left forearm.

DISCUSSION

Levamisole is an anthelminthic drug used in veterinary medicine. Its prior use in humans as an immunomodulatory agent was discontinued in the United States in 1999 due to its adverse effects, which most notably include neutropenia, agranulocytosis, and vasculitis.[1] Since the 2000s, it has been established to be a common adulterant added to cocaine.[2] Levamisole is believed to potentiate the euphoric effects of cocaine by inhibiting catecholamine breakdown. It also shares similar physical and chemical properties with cocaine, allowing it to pass drug purity tests without detection.[1] Due to the logistical difficulty in confirmatory lab testing for levamisole, a high index of suspicion is necessary to make this diagnosis. It must always be considered in a patient who has a leukocytoclastic cutaneous rash, with or without neutropenia, and a temporal association with cocaine use. Levamisole-adulterated cocaine has also been linked to production of autoantibodies that can damage the lungs and kidneys. The mechanism by which levamisole causes vasculitis and agranulocytosis has yet to be fully elucidated. No specific treatment is required beyond supportive care and future avoidance of levamisole from contaminated cocaine. Though in severe cases, treatment can be more extensive when the rash exhibits central areas of necrosis that may require surgical debridement and can be complicated by wound infection and delayed healing.

References

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Disclosures

None of the authors have any disclosures or conflicts of interest to report.

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