A Case of Multiple Cocaine-Induced Toxicities: Rash, Neuroleptic Malignant Syndrome, and Levamisole-Induced Leukoencephalopathy
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Objective:
We aimed to characterize the presentation of levamisole-induced leukoencephalopathy (LIL) that also presented with rash typical of levamisole exposure, and neuroleptic malignant syndrome (NMS) secondary to cocaine ingestion.

Background:
Levamisole is an anti-helminthic agent previously used to treat certain autoimmune disorders and cancers, since withdrawn from the US market due to adverse effects including vasculitis and agranulocytosis; it is now found in up to 80% of cocaine as a diluent. LIL is a rare inflammatory demyelinating leukoencephalopathy that may present with encephalopathy or focal neurologic deficits after levamisole exposure.

Design/Methods:
We described a clinical case and performed a PubMed review of available literature.

Results:
A 30-year-old male presented to the emergency room with global aphasia after being on the ground of his apartment. He was febrile, tachycardic, rigid in all extremities, and with punctate erythematous lesions on his limbs/torso. Investigations revealed cocaine metabolites in the urine, peripheral leukocytosis, and elevated creatinine kinase (CK); head CT was normal. Lumbar puncture was negative for infectious etiology, though did reveal mild lymphocytic pleocytosis. He was treated for presumed NMS, with rigidity subsiding after dantrolene treatment. Persistent aphasia/encephalopathy prompted repeat imaging, with MRI revealing irregular, heterogeneously enhancing, T2-hyperintense lesions in the white matter, suspicious for atypical acute disseminated encephalomyelitis (ADEM), though also typical of LIL. Given cocaine use, concomitant rash and NMS, he was diagnosed with LIL from presumed contaminated cocaine exposure. He was treated with pulse solumedrol over 5 days; at 2-months follow-up, he had returned to work with only mild fatigue as a persistent deficit.

Conclusions:
As levamisole’s half-life is just 3-4 hours and may not be detected acutely, concomitant toxicities should raise the possibility of LIL in cocaine users, particularly in unusual presentations of suspected ADEM as acute immunosuppression is similarly beneficial, but re-exposure to levamisole may trigger a relapse.