

## Case Blog

### **Title: Levamisole induced Vasculopathy: A Case of Extensive Necrosis after Re-exposure to Levamisole Tainted Cocaine**

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**Figure 1:** Highlights cutaneous vasculitis involving ear lobule, one of the peculiar presentation of levamisole induced vasculitis

**Figure 2:** Levamisole induced extensive skin necrosis, involving both buttocks, thighs (posterior>anterior surface), bilateral legs and feet with smaller patches on upper extremities, >40% body surface area affected.

## Abstract

Levamisole induced skin vasculitis/vasculopathy is a relatively new diagnosis with limited knowledge about the underlying mechanism of above manifestation. The most commonly reported cause is the generation of autoantibodies against myeloperoxidase and other neutrophilic enzymes hence commonly mimicking ANCA associated vasculitis. We present a case report of 52 years old female with history of levamisole induced vasculitis in past and presented with >40% body surface area involvement after being re-exposed to levamisole tainted cocaine. Though recurrence of lesions has been documented on re-exposure to levamisole laced cocaine but extensive skin necrosis has not been documented in the literature.

## Case Blog

A 52 year old female presented with widespread necrotizing vasculitic lesions of her left ear, arms, and legs covering more than 40% of her body surface area (Figure 1 and 2). She confirmed recent cocaine use and had a similar, less severe event two years ago after using cocaine. The urine toxicology was positive for cocaine and her serology revealed positive p-ANCA with MPO titer (myeloperoxidase antibody) >1:640. She underwent amputation, extensive debridement, and was started on antibiotics. Due to the concern for levamisole-cocaine related vasculopathy, high dose steroids were started to prevent progression of vasculopathy and skin necrosis. Later, histopathological analysis was consistent with levamisole-cocaine related vasculopathy with widespread occlusive thrombi in the arteries of the foot. The patient improved with above mentioned care and was discharged after 1 week in the hospital.

Levamisole contaminated cocaine vasculitis is a relatively recent discovery. It commonly affects middle-aged females, especially those that are HLA-B27 positive. MPO has been implicated as a critical enzyme present in peripheral leukocytes proficient at metabolizing drugs to reactive metabolites capable of haptening of MPO [1]. Hence, development of antibodies to this enzyme is commonly seen in levamisole laced cocaine exposed patients. Furthermore, one of levamisole's metabolites, 6-phenyl-2,3-dihydroimidazo(2,1b) thiazole, may induce immunological response by acting as a hapten with a self-peptide inducing T-cell activation via the HLA-B27 genotype [2].

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Clinically, patients present with tender, purpuric macules, papules, or plaques in a retiform or stellate pattern. The lesions commonly progress to confluent areas of necrosis, crusting eschar, and ulceration. One of the characteristic clinical finding in levamisole-contaminated cocaine vasculitis is ear lobe purpura, documented in 63% of patients [3]. The ideal treatment is cessation of cocaine use and supportive care of cutaneous lesions.

Though recurrence of lesions has been documented on re-exposure to levamisole laced cocaine, extensive skin necrosis (involving >40% of body surface area) has not been documented in the literature. This case highlights the risk for amplification of the immune response after re-exposure to levamisole tainted cocaine and compels practitioners to counsel patients on the importance of cocaine cessation to prevent extensive tissue necrosis.

#### References

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