Levamisole in cocaine causing agranulocytosis and neutropenia: Skin necrosis, renal issues, and/or opportunistic infections

Cases of agranulocytosis, neutropenia, and vasculitis related to cocaine use continue to be seen in Toronto emergency departments. These illnesses are due to an adulterant, levamisole, a chemical compound used to treat worms in animals, rather than from the cocaine itself. Individuals in Toronto, and across North America, have developed immune system suppression after using cocaine. Although cases have been found across age and gender, female cases have been more frequent.

Presentations include fever, opportunistic infections, and/or skin necrosis.
- In a cocaine user or suspected cocaine user, any symptoms of rapidly developing infection, including fevers, warrant an urgent CBC and differential to look for neutropenia. The neutropenia is acute and profound, commonly with a neutrophil count of zero. The total white blood cell count may only be slightly below normal as the lymphocytes and other white blood cells can be normal.
- Neutrophil count generally recovers within 10 days after cocaine use is discontinued.
- Urine toxicology can be sent simultaneously looking for cocaine and levamisole. However, levamisole has a short detection “window” in urine (specimen should be collected within 24 h of last use).
- Organ involvement also appears to be possible with several case reports of both renal and lung disease that is most commonly expressed as pauci-immune glomerulonephritis and pulmonary hemorrhage, respectively.

A large percentage of cocaine entering North America continues to be cut with levamisole. Some people having severe reactions to levamisole may be positive for HLA-B27 genotype.

More information, including case reports, can be found at: