

Health **FAX**

Agranulocytosis and Neutropenia in Crack or Cocaine Users

Attention: **Hospital Emergency Departments, Walk In Clinics**

Date: February 16, 2011

Over the last year, Toronto emergency department physicians have been seeing cases of agranulocytosis, neutropenia, skin necrosis and vasculitis related to cocaine use. There has been one known case seen at the Royal Victoria Hospital in Barrie. These illnesses are not due to the drug but instead linked to an adulterant or cutting agent, levamisole, a known cause of agranulocytosis in susceptible individuals. Levamisole is a chemical compound used to treat intestinal worms in humans and animals.

Some individuals in Toronto, and across North America, have developed immune system suppression after using cocaine. Cases have been found across all ages and both genders.

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.
- 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 24h or last use).

Neutrophil count generally recovers within 10 days after cocaine use is discontinued.

In 2009, over 70% of cocaine seized in the U.S. contained levamisole. It is unknown why some people have severe reactions to this drug, while others do not.

If clinicians become aware or suspect of any cases in Simcoe Muskoka, public health would appreciate being notified, particularly with the presenting signs and symptoms. Please contact the Simcoe Muskoka District Health Unit Sexual Health Phone Line at 705-721-7520 or 1-877-721-7520 Ext. 8376

More information, including case reports, is available at the following links:

- Annals of Internal Medicine: Bilateral necrosis of earlobes and cheeks
<http://www.annals.org/content/152/11/758.extract>
- CMAJ – Cocaine adulterant linked to neutropenia
http://www.cmaj.ca/cgi/rapidpdf/cmaj.090286v1?ijkey=14ed06152bb0507096eb4a029e6ee0c8c7bb2ab&keytype2=tf_ipsecsha
- British Columbia study of genetic markers in agranulocytosis caused by levamisole – contaminated cocaine:
<http://www.bccdc.ca/prevention/HarmReduction/Agranulocytosis+Associated+with+Levamisole+in+Cocaine/default.htm>