

Dear Colleague:

**March 2009 Update: Severe neutropenia and adulterated cocaine use**

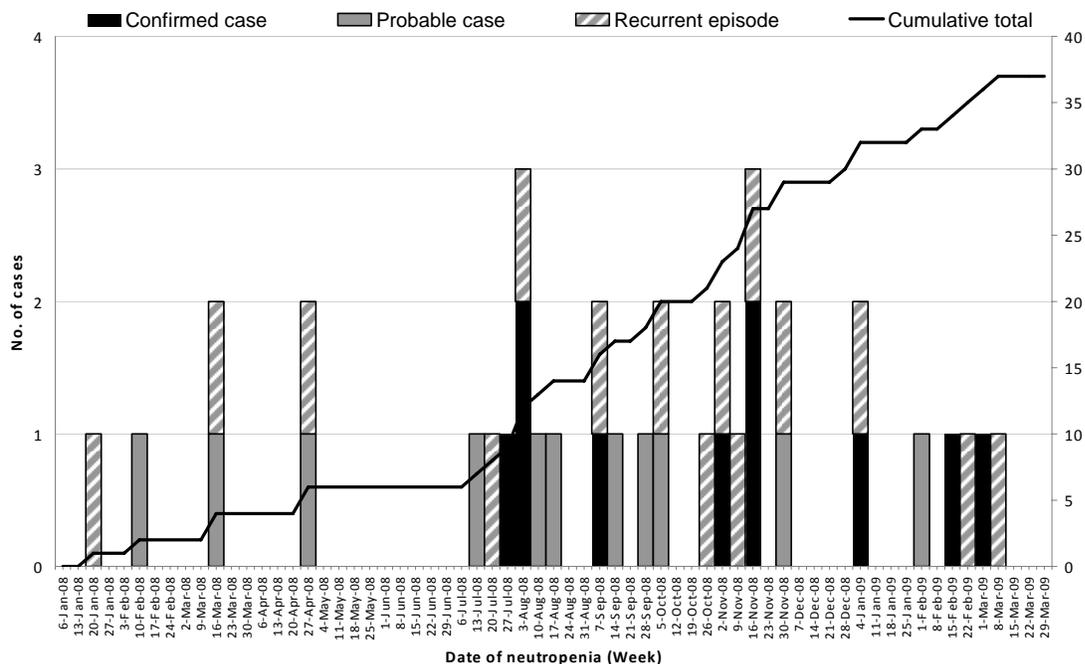
Alberta Health Services continues to investigate the occurrence of neutropenia related to levamisole tainted cocaine. As of March 31, 2009, 39 cases of neutropenia related to cocaine and levamisole have been reported to us or found during a review of historical laboratory data (11 confirmed; 28 probable). One death was associated with confirmed use of levamisole adulterated cocaine. A retrospective look back of laboratory data in Calgary, Edmonton and Chinook areas found the earliest case dating back to 2006. The most recent case presented with neutropenia on March 13, 2009 in Edmonton.

The investigation into neutropenia related to levamisole in cocaine has discovered that some cases are experiencing multiple episodes of neutropenia (38% of cases since January 2008). Neutropenia is typically being seen in cases that have smoked crack cocaine.

**Summary of Cases**

- Predominantly female: 62% females, 38% males.
- Ages range from 18 to 54 years (average = 39 years, median = 40 years).
- Location of cases: Edmonton, Calgary, Blackfalds, Cardston, Caslan, Fort Chipewyan, Grand Prairie, Kehewin Cree Nation, Medicine Hat, Saddle Lake, Stony Plain, and Wabamun; interestingly, not in Fort McMurray.
- Main type of cocaine use documented: 18 (46%) cases used crack, 21 unknown (54%)
- Method of cocaine use documented: 10 (26%) cases smoked cocaine, 29 unknown (74%).

Neutropenia cases related to cocaine use in Alberta, Canada (2008-2009)



The neutropenia is acute and profound, commonly with a neutrophil count of zero. The total white blood cell count may also be below normal.

In the past month, other areas within North American have been detecting neutropenia cases related to levamisole tainted cocaine use. Alberta Health Services has been contacted by colleagues from New Mexico, Colorado, and New Brunswick about the details and findings from our investigation.

For clients presenting with symptoms suggestive of adulterated cocaine exposure, refer to the attached, “**Neutropenia related to levamisole adulterated cocaine: QUICK RESPONSE SHEET**” and contact public health. Public Health contact: Lewinda Knowles, telephone: 780-413-7740, email: Lewinda.Knowles@capitalhealth.ca.

Thank-you for your cooperation in this matter.

Sincerely,

*(Original Signed)*

James Talbot, MD, PhD, SCCM, FRCP(C)  
Associate Medical Officer of Health  
Alberta Health Services-Capital Health

Lewinda Knowles  
Epidemiologist

Previous communication on this topic can be found at  
<http://www.capitalhealth.ca/EspeciallyFor/HealthProfessionals/default.htm>.

**Neutropenia related to levamisole adulterated cocaine**  
QUICK RESPONSE SHEET

**What to look for:**

- any signs of infection, including fevers. Including any skin, abscess or lung infections that appear to have developed more rapidly or have progressed more seriously
- suspected cocaine use

**Diagnostic Tests:**

- Urgent CBC and differential to look for neutropenia
  - A spot urine specimen (minimum 10 mL) should be collected for cocaine metabolites and levamisole toxicology testing **as soon as possible** – the latter drug has a short detection “window” in urine (ideally specimen should be collected within 24-48h of use).
- Specify “**neutropenia**” and “**levamisole toxicity suspected**” in the *Clinical Information* section of the requisition. Contact your referral toxicology laboratory if more information is required.

**Treatment:**

If the neutrophil count is less than 1.0 and the patient is febrile or has an active infection, **an urgent referral to an on-call Hematologist** should be made.

The patient will require admission to hospital immediately, an infectious work-up including blood cultures should be undertaken and broad-spectrum intravenous antibiotics (ie. Piperacillin/Tazobactam, Imipenem or Ceftazidime) administered. Filgastrim (G-CSF) should not be started until consultation with a hematologist has been made. An additional investigation that can aid in the diagnosis is an elevated aPTT from a lupus anticoagulant which has been seen as well.

Recovery generally occurs after 7-10 days, but close monitoring is required as the risk of mortality from sepsis is high.

**Interviews with Client:**

Advise clients that the cocaine being sold is potentially cut with a dangerous substance that could harm their immune systems. If possible, inquiry about client’s cocaine use practices, specifically related to the last time they used.

- **Type of cocaine use:**  Crack  Powder
- **Method of cocaine use:**  Smoke  Inject  Snort
- **Amount of cocaine use:** Number of grams used: \_\_\_\_\_  
Number of days used: \_\_\_\_\_
- **Did the cocaine have a unique taste, smell or look to it?**
- **Do they consistently use the same drug supplier?**  Yes  No
- **Amount purchased from last supplier:** Number of grams: \_\_\_\_\_

**Contact Public Health Department:**

If clinicians become aware of any more cases, contact public health with the patient’s name, date of birth, PHN, address and phone number as we are monitoring the situation. Contact: Lewinda Knowles (780) 413-7740.