January 27, 2009

Dear Colleague:

**Re: Update: Neutropenia and adulterated cocaine use**

This message is an update to the alert sent on November 21, 2008, [http://www.capitalhealth.ca/EspeciallyFor/HealthProfessionals/default.htm](http://www.capitalhealth.ca/EspeciallyFor/HealthProfessionals/default.htm) titled “Agranulocytosis Related to Cocaine Adulterated with Levamisole”.

In November 2008, Public Health in Edmonton and area became aware of cases of neutropenia that appear to be related to cocaine use. The neutropenia is thought to be due to the cocaine adulterant or cutting agent called levamisole; a known cause of neutropenia in susceptible individuals.

As of today, 12 cases of neutropenia related to cocaine and levamisole have been reported to us (7 confirmed; 5 probable). Most recent cases presented on January 9, 2009 in Calgary. Details of the cases included:

- Predominantly female: 67% females, 33% males
- Onset dates:
  - Confirmed cases: August 8, 2008 – January 9, 2009
  - Probable cases: April 12, 2007 – November 10, 2008
- Ages range from 18 to 54 years (average = 39.6 years, median = 42.5 years)
- Location of cases: Edmonton, Calgary, Grand Prairie, Caslan, Stony Plain, Blackfalds, and Cardston
- Type of cocaine used: 7 (58%) cases used crack, 5 unknown
- Method of cocaine use: 7 (58%) cases smoked cocaine, 5 unknown

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

Advice to clients at risk should include a warning that the cocaine being sold is potentially cut with a dangerous substance that could harm their immune systems. **They should seek medical attention rapidly if they develop a fever over 38°C or have any signs of infection.** Also, any skin, abscess or lung infections that appear to be developing more rapidly or are progressing more seriously may indicate an underlying acute immunodeficiency and require even more immediate treatment than usual.

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 co-operation in this matter.

Sincerely,

*(Original Signed)*

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