Info-MADO

Newsletter of the Department of Public Health on reportable diseases

Outbreak of Cryptosporidiosis

STATUS REPORT

A first case of cryptosporidium was documented in a Hudson community last April. Over the summer, other cases occurred in the same village. As of November 21, 2013, 27 cases of infection with *Cryptosporidium sp.* have been reported to the Nunavik Department of Public Health for 2013. Of that number, 12 cases were reported during the past three weeks, and several communities are now affected. The pathogen had not previously been reported in the region.

INFORMATION ON CRYPTOSPORIDIOSIS

Cryptosporidiosis is a parasitic infection caused by a coccidian protozoa, most often *Cryptosporidium hominis* or *Cryptosporidium parvum*.

Clinical signs

- Diarrhea, often profuse and watery;
- Sometimes accompanied by abdominal cramps and fever;
- Often accompanied by vomiting and anorexia especially among children;
- Symptoms often last more than seven days and sometimes several weeks;
- Among severely infected young children, growth and/or developmental retardation may have long-term impacts;
- Infection can be asymptomatic.

Method of transmission

The present situation indicates that the principal method of transmission is person to person (fecal-oral route). Other possible methods of transmission are through:

- Ingestion of untreated contaminated water from lakes and rivers;
- Ingestion of contaminated raw mussels;
- Ingestion of protozoa contaminating hands, objects or other surfaces.

Incubation period

• Variable, but may be from 1 to 12 days with an average of 7 days.

Period of communicability

- Upon onset of symptoms;
- Excretion in stool can last several weeks after disappearance of symptoms;
- However, communicability is maximal in presence of diarrhea.

Ultraviolet rays and cooking destroy this parasite.



INTERVENTION BY THE REGIONAL DEPARTMENT OF PUBLIC HEALTH

- The Kativik Regional Government (KRG) and the *ministère du Développement durable, de l'Environnement, de la Faune et des Parcs (MDDEFP)* have been informed of the situation. The KRG has checked on the application of norms at the potable-water treatment plant in the initial village and is searching for the parasite's presence on that site as well as upstream and downstream (domestic reservoirs). The communities' water-supply systems are equipped with UV irradiation equipment with the exception of Kuujjuaq, Aupaluk and Ivujivik, where work on meeting the norms is currently under way;
- Laboratory analyses are under way to identify the subspecies of *Cryptosporidium* in question, which could lead to documentation of a source of the initial infection;
- An epidemiological questionnaire was designed and used with the cases;
- The records of all cases in the most-affected village were examined in order to establish a better description of the disease and the nature of the care required;
- A pamphlet and radio messages were produced and distributed to the CLSCs for use by local interveners:
- Information was directly broadcast over local FM radio in the two villages most affected.

RECOMMENDATION FOR CLINICIANS

Screen for cryptosporidiosis among individuals with symptoms of prolonged or recurrent enteritis.

The laboratory tests to be carried out are as follows

- Stool culture;
- Search for ova and parasites according to usual method (SAF fixative);
- Additional specimen of fresh stool to search for *Cryptosporidium*, taken according to memo circulated November 1, 2013 (minimum quantity 10 ml).

Treatment

- Support: liquid and electrolyte replacement;
- Clinical studies are under way to document the efficiency of various antiparasitic agents against *Cryptosporidium* infection; there is currently no approved medication against cryptosporidiosis in Canada.

Surveillance

• Fill out the epidemiological questionnaire with the patient and return it by fax to the Nunavik Department of Public Health at 1-866-867-8026, or (819) 964-2814.

Prevention et control

- Health-care environments: rigorously apply hygiene measures, including hand washing, cleaning and disinfection of surfaces;
- Withdrawal from work: personnel handling food and providing care; return to work is possible 48 hours after symptoms disappear;
- Exclude from day-care: children with diarrhea (see Chapter V, page 141 of the MSSS 2001 Guide d'intervention Prévention et contrôle des infections dans les services de garde à l'enfance (Intervention guide for the prevention and control of infections in day-cares)); return to day-care is possible according to the criteria listed in the same chapter;
- Instruct the patient not to use swimming pools until two weeks after symptoms disappear;
- Inform patient of the importance of washing hands with soap and water.

Sources

- Santé et services sociaux. Prévention et contrôle des infections dans les services de garde à l'enfance : guide d'intervention. 2011.
 MSSS.
- APHA. Control of Communicable Diseases Manual. David L. Heyman, éditeur. 19th Edition, 2008.
- Lévesque, Benoit, Microbiological quality of blue mussels (Mytilus edulis) in Nunavik, Québec: a pilot study. Can J. Microbiol. 56: 968-077 (2010)
- Tropical Infectious Diseases, Guerrant et al, 2^e Edition 2006



Reported cases of cryptosporidiosis (MADO), Nunavik 2013 (21-11-2013) Number of cases per week according to date of specimen

