

Hantavirus Pulmonary Syndrome (HPS)

Clinical Definition:

A severe viral respiratory illness transmitted from inhalation of mouse droppings and urine infected with hantaviruses, mainly the Sin Nombre virus.



Source of Infection and Transmission:

The virus is normally found only in rodents, especially Deer Mice, but also rats and other kinds of mice. Small populations of deer mice have been identified in the southern NWT. People get HPS when they breathe in the virus that is found in the urine, saliva or droppings of infected rodents.

- ◆ Person-to-person transmission is rare. The highest risk (70%) occupation is farming. Disease occurrence coincides with the presence and increased number of carrier rodents.

Incubation Period:

- ◆ 9 to 35 days.

Symptoms:

- ◆ High fever, chills, myalgia, occasional headaches and sometimes gastrointestinal complaints. Five days after onset of initial symptoms, cough and shortness of breath develop. Pulmonary edema and deterioration of cardiopulmonary function may develop rapidly over the next 24 hours. Symptoms may last for 3 – 7 days.
- ◆ An abrupt hypotensive phase may develop which may progress to shock and more apparent hemorrhagic manifestations.

Major Complications:

- ◆ May be fatal. 5 – 15% case fatality rate.

Public Health Measures:

- ◆ Review possible source of infection with cases.
- ◆ Monitoring of other potential contents
- ◆ Appropriate disinfection of contaminated site.
- ◆ Rodent elimination.

Reporting and Follow-Up:

- ◆ Any suspected cases are to be reported to the Office of the Chief Medical Health Officer (OCMHO).
- ◆ Complete *Communicable Diseases Report Form*.

Diagnosis and Treatment:

- ◆ There is no proven effective antiviral therapy.
- ◆ Clinical management depends on careful fluid administration (avoid overhydration) and ventilatory support.

Public Education: (Key Messages)

In the spring when people do their spring-cleaning and begin spending more time outdoors NWT residents are advised to take the following basic precautions to keep any risk to a minimum:

Precautions

- ◆ The main risk of infection comes from being exposed to accumulations of mouse droppings in enclosed areas -- for example, cleaning a garage, shed or cottage where mice may have been living in during the winter months.
- ◆ Hantavirus is passed to humans when they breathe in airborne particles released from the droppings, fresh urine and nesting material of infected rodents.
- ◆ The virus does not appear to cause any illness in pets. Even if they are exposed to the virus, dogs, and cats do not pass the infection on to their owners.
- ◆ The virus is not passed from one person to another.
- ◆ The most effective precaution against infection is to keep rodents out of homes and work areas, and immediately trap any that get in.
- ◆ Ventilate enclosed areas before cleaning by opening doors and windows for at least 30 minutes. Stay out of the area while it airs out.
- ◆ When you begin cleaning it is important that you **do not** stir up dust by sweeping or vacuuming up droppings, urine, or nesting materials. Soak droppings with disinfectant before you mop them up or pick up with a paper towel. Place them in a sealed bag and bury it, or put it out for removal in garbage cans with tight-fitting lids.
- ◆ Wear rubber gloves to handle the droppings. Rinse the gloves in disinfectant (such as bleach solution or soap and water) before taking them off.
- ◆ Do not sweep or use a vacuum cleaner to remove droppings in an enclosed space. People who are likely to be exposed to high levels of contamination or in spaces with little ventilation should wear a mask with a HEPA filter.

- ◆ Keep rodent populations under control.
- ◆ Use mouse proof food storage containers.
- ◆ Clean up mouse droppings with bleach or Lysol®.

Epidemiology:

NWT has not documented any Hantavirus cases to date.