

Hantavirus Infection Pulmonary Syndrome



COMMUNICABLE DISEASE CONTROL

Clinical Overview

Signs and Symptoms

- Presents as a “flu-like” illness, characterized by fever, intense headache, myalgia, nausea and other GI complaints, followed by the abrupt onset of respiratory distress and hypotension. The illness can progress rapidly to adult respiratory distress syndrome (ARDS) and cardiogenic shock. Crude mortality rate is as high as 50-60%, and death is generally due to respiratory failure. In survivors, recovery is rapid with full restoration of normal lung function.
- Thrombocytopenia is a prominent feature of the pulmonary syndrome. The greater the drop in platelet count, the more severe the infection.
- WBC count is usually normal but neutrophilic leukocytosis with a left shift may develop later.
- Hemoconcentration with low albumin levels is a prominent feature in about 50% of patients, as is the presence of circulating peripheral lymphoblasts.
- Patients presenting with the above picture and a low pressure pulmonary edema, in the absence of any other identifiable cause, should be suspected of hantavirus infection.

Specimen Collection: Diagnosis

- Diagnosis of hantavirus infection is by demonstration of specific IgM antibodies (by ELISA or Western blot techniques) or a titre rise, the latter requiring an acute and a convalescent serum specimen taken at least two weeks after the acute specimen (red top tube). Both IgM and IgG will be done on acute and convalescent specimens. Do not draw the acute specimen prior to the onset of symptoms. PCR analysis can also be done on autopsy or biopsy tissues. Other blood tests include CBC, hematocrit, bicarbonate, LDH, ALT, serum albumin, chest x-ray and blood gases.

- Submit samples to Cadham Provincial Laboratory (CPL) with the usual requisition. Please indicate as suspect hantaviral infection.
- Specimens are processed at the Canadian Science Centre for Human and Animal Health (CSCAH) in Winnipeg.

Specific Treatment

- As indicated in the Manitoba Health Communicable Disease Control Protocol Manual, specialist respiratory intensive care management is indicated for ARDS. A consultation with an infectious diseases specialist should be made if the diagnosis is considered.
- There is a spectrum of disease from mild to severe. It is important to give supplemental oxygen.

Prevention of Additional Cases

- If exposure is suspected to have occurred in the home, other household members should temporarily relocate until appropriate cleaning measures can be undertaken.
- Household contacts or persons who shared the same suspected exposure should be advised of the need to seek medical attention promptly if they develop compatible symptoms.
- All suspected cases should be immediately reported to the Communicable Disease Control Unit, Manitoba Health 788-6736 8:30-4:30 M-F; after regular hours contact the Medical Officer of Health on-call at 945-0183.