California Department of Public Health - Viral and Rickettsial Disease Laboratory

Hantavirus Pulmonary Syndrome (HPS)
Specimen Submittal Instructions

Guidelines for Submission

- Fill out as completely as possible:
  - VRDL GENERAL PURPOSE SPECIMEN SUBMITTAL form
  - HPS CASE HISTORY FORM
  - Fax both forms to the Medical Epidemiology Liaison Section (MELS) at (510) 307-8599 AND send a copy with the specimen(s) to avoid delays in testing.
- Collect two tubes and send on cold packs (**It is very important to use an overnight delivery service because the EDTA samples will begin to degrade within three days)**
  - One 5 ml tube in EDTA (purple top)
  - One 10 ml whole clotted blood (red top).
- Since the incidence of HPS is rare in California, we recommend that you also submit a respiratory specimen (nasopharyngeal swabs or washes, tracheal aspirates, bronchoalveolar lavage, and/or pleural fluid) for viral isolation and/or respiratory PCR assays to test for other agents that may be causing your patient's illness.
- Save all specimens (including hematology differential slides) from the patient until HPS serology has been completed. Additional samples may be tested if the patient is deceased.
  - Paraffin embedded lung and kidney tissues- Ship and store at ambient temperature
  - Fresh or frozen lung and kidney- Ship and store at -70^{o}C

HPS Consultation

- If you would like to consult about a possible HPS patient, call the Infectious Disease Branch at (916) 552-9730 or call the Medical and Epidemiology Liaison Section (MELS) for the VRDL at (510) 307-8585. If neither is available, local health departments may contact the Duty Officer at (510) 620-3434.
- Clinical consultations for patient management are available from the staff at the University of New Mexico Medical School. Call 1-888-866-7257 and request a HPS consultation.
- In cases where clinical presentation is not consistent with VRDL HPS test results, or VRDL HPS results are equivocal, specimens may be forwarded to a reference laboratory for further testing.

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Screening Criteria for Hantavirus Pulmonary Syndrome in Persons with Unexplained Respiratory Illness *

* MMWR October 28, 1993 pp 816-820

Potential case-patients must have <u>one</u> of the following:

- A febrile illness (temperature ≥ 101 F or ≥ 38.3 C) occurring in a previously healthy person characterized by unexplained adult respiratory distress syndrome (ARDS)
- Bilateral interstitial pulmonary infiltrates developing within one (1) week of hospitalization with respiratory compromise requiring supplemental oxygen
- Unexplained respiratory illness resulting in death in conjunction with an autopsy examination demonstrating non-cardiogenic pulmonary edema without an identifiable specific cause of death
- Thrombocytopenia along with elevated hematocrit and high WBC with immunoblasts in the smear is characteristic of patients suspected to be infected with hantavirus.

Potential case-patients are to be <u>excluded</u> if they have <u>any</u> of the following:

- An acute illness that provides a likely explanation for the respiratory illness (unless there is history of recent potential rodent exposure) such as:
    - Recent major trauma, burn, surgery, recent seizures or history of aspiration
    - Bacterial sepsis
    - Another respiratory disorder such as respiratory syncytial virus in young children, influenza, or legionella pneumonia

Confirmed case-patients must have the following:

- Compatible clinical history of illness

AND

- Detection of Immunoglobulin M (IgM) antibodies or a significant (i.e., fourfold or greater) rise in hantavirus-specific Immunoglobulin G (IgG) antibody titers
  OR
- Detection of hantavirus-specific nucleic acid amplification testing (NAAT) in an appropriate clinical specimen
  OR
- Detection of hantavirus antigen by immunohistochemistry (IHC)

Hantavirus Pulmonary Syndrome Case History Form

Please return with Specimen Submittal Form to:

Viral and Rickettsial Disease Laboratory
ATTN: Specimen Receiving
850 Marina Bay Parkway
Richmond, CA 94804 Phone (510) 307-8585 Fax (510) 307-8599

Patient Id.(assigned by State Lab)

0	6						

--FIPS-- --YR-- -----CA # ------

Patient's Last Name, First Name		Middle Name:	Patient's Mailing Address
Date of Birth: _____/_____/_____	Age:	Sex: M F	Occupation:
County Health Jurisdiction:			Race/Ethnicity: [ ] White [ ] Black [ ] Asian/Pacific Islander [ ] American Indian/Alaska Native [ ] Hispanic [ ] Non-Hispanic [ ] Unknown

Date of Onset and Hospitalization History

Onset Date:	Was patient hospitalized for this illness? [ ] Yes [ ] No [ ] Unk	
Name of Hospital:		
Location of Hospital:		
Dates in Hospital:	_____/_____/_____ to _____/_____/_____	_____/_____/_____ to _____/_____/_____
MR#		

Clinical Signs, Symptoms and Laboratory Values

Did the patient have any of the following?		(Circle)		Additional Information:
Fever > 101F or > 38.3 C:	Yes	No	Unk	**Highest fever:**
Thrombocytopenia (platelets ≤ 150,000 mm):	Yes	No	Unk	**Lowest platelet count:**
Elevated hematocrit (Hct):	Yes	No	Unk	**Highest Hct:**
Elevated creatinine:	Yes	No	Unk	**Highest creatinine:**
CXR with unexplained bilateral interstitial infiltrates or Suggestive of ARDS?	Yes	No	Unk	Date Performed:
Oxygen saturation < 90% at any time?	Yes	No	Unk	
Was patient intubated?	Yes	No	Unk	Date Performed:
Has patient received ribavirin?	Yes	No	Unk	

WBC:	Total Neutrophils: %	Banded neutrophils: %	Lymphocytes: %	Atypical Lymphocytes: %

History of any relevant underlying medical conditions (i.e. COPD, malignancy, immunosuppression, diabetes)?

Other possible explanations for acute illness (i.e. sepsis, burns, trauma)?

History of rodent exposure in 6 weeks prior to illness? [ ] Yes [ ] No [ ] Unk

Date of Exposure to known direct or indirect contact with rodents or their excreta :_____/_____/_____

Type of Rodent:_____

Place of Exposure:_____

Outcome of Illness? [ ] Alive [ ] Dead (if deceased, date of death) _____/_____/_____ [ ] Unk
If deceased, was an autopsy performed? [ ] Yes [ ] No
Evidence of non-cardiogenic pulmonary edema? [ ] Yes [ ] No

Available Samples: Serum/blood [ ] Yes (date collected _____/_____/_____ [ ] No
Fresh frozen or paraffin tissue blocks [ ] Yes [ ] No

Has a specimen been tested for hantavirus infection at another lab? [ ] Yes [ ] No
If yes then Name of lab and append a copy of the results:

Comments: