



MANAGEMENT OF THE PATIENT EXPOSED TO HANTAVIRUS

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BACKGROUND

- Members of the order Bunyvirales (which includes families that cause viral hemorrhagic fevers), family Hantaviridae.
- Hantaviruses can infect rodents without causing disease.
- **Traditional transmission is via inhalation route through aerosol exposure to rodent bodily fluids.**
- *New World Hantaviruses:* Hantaviruses found in the Western Hemisphere and can lead to **hantavirus pulmonary syndrome (HPS)**.
- *Old World Hantaviruses:* Hantaviruses found in the Eastern Hemisphere and can lead to hemorrhagic fever with renal syndrome (HFRS).

HANTAVIRUS PULMONARY SYNDROME (HPS)

Clinical Case Definition:

- Fever > 38.3 C (101 F)
- Bilateral diffuse interstitial edema
- Respiratory compromise requiring supplemental oxygen within 72hrs of hospitalization
- Previously healthy patient with known exposure to rodents or rodent fluids

Incubation Period:

- Can range from 9-40 days from exposure to rodents/rodent bodily fluids.
 - Median is 14-17 days

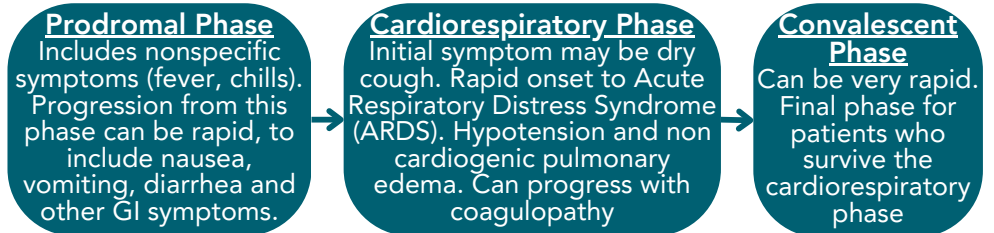
Case Fatality:

- 35-38%

Diagnostic Triad

- 1) **Rapidly progressive thrombocytopenia**
 - Does not distinguish those who will experience more severe forms of disease later on.
- 2) **Left-shift**
- 3) **Immunoblasts >10% total lymphocytes**

Clinical Progression of HPS



TESTING

- Hantavirus testing requires pre-approval from the CDC to perform testing through Viral Special Pathogens Branch (VSPB)
 - Turnaround time is approximately 14 days.
- VSPB is available for consultation by calling the **CDC EOC: 770-488-7100**

MANAGEMENT OF HPS

- Droplet and contact precautions (preferably in an Airborne Infection Isolation Room).
- Optimized, supportive critical care therapy.
- Extracorporeal membrane oxygenation.
- Ribavirin has been shown to be effective on Old-World hantaviruses.
- Monoclonal antibody therapy is currently in development.
- Molecular checkpoint inhibitors are also in development.
- Glucocorticoids have been shown to have no impact on outcomes.

RISK REDUCTION

- Increase ventilation in areas attractive to rodents.
- Employ effective trapping methods.
- Seal off portals of entry to homes.
- Prior to cleaning, treat nests and contaminated surfaces with disinfectant.
- Wear appropriate PPE.

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