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ADHS

Increased Hantavirus Activity in Arizona: Consider Hantavirus in your Differential

Arizona has been experiencing an increase in hantavirus activity. As of July 1st, seven human cases of Hantavirus Pulmonary Syndrome (HPS), including three deaths, from three counties have been reported for 2024. Arizona healthcare providers are strongly encouraged to:

- Consider hantavirus infection for patients with a history of rodent exposure and the following signs and symptoms:
    - **Early Symptoms:** Early symptoms include fatigue, fever and muscle aches, especially in the large muscle groups—thighs, hips, back, and sometimes shoulders. There may also be headaches, dizziness, chills, and gastrointestinal problems, such as nausea, vomiting, diarrhea, and abdominal pain. About half of all HPS patients experience these symptoms. Rhinorrhea and sore throat are absent. Symptoms can be mild and mimic other conditions, so it is important to keep a high level of suspicion if there is a history of rodent exposure. At this stage, hematological findings may reveal thrombocytopenia (low platelet count) and elevated peripheral white blood cell count.
    - **Late Symptoms (cardiopulmonary stage):** Usually four to 10 days after the initial illness, the late symptoms of HPS appear. These include coughing and shortness of breath associated with chest x-ray findings of diffuse airspace disease similar to acute respiratory distress syndrome (ARDS), as the lungs fill with fluid. Hematological findings at this stage include thrombocytopenia, hemoconcentration (elevated hemoglobin and hematocrit), markedly elevated peripheral blood white cell count with pronounced left shift, often with immunoblasts. Elevated liver aminotransferases and low serum albumin may also be seen.
- If HPS is suspected, a chest radiograph and routine blood work, especially a complete blood count, should be obtained. In the context of a rodent exposure, HPS should be strongly considered if the chest x-ray demonstrates diffuse pulmonary infiltrates in association with thrombocytopenia and leukocytosis with left-shift. The patient will require emergency medical care even before diagnosis, and initiating extracorporeal membrane oxygenation (ECMO) at the earliest sign of decompensation has an 80% survival rate.

- **Submit serum sample for hantavirus IgM testing at the Arizona State Public Health Laboratory (ASPHL) for high suspect cases** instead of testing commercially. Commercially available IgM testing can be false positive and thus should be confirmed at ASPHL.
- Notify local public health regarding suspected hantavirus illness and to coordinate testing at ASPHL.
- Be aware that not all hantavirus infections fit the above criteria. Keeping a high level of suspicion in the context of a high risk exposure (e.g., history of cleaning out a shed with noted exposure to rodent feces) will help minimize missed cases of this potentially fatal infection.

HPS is a severe and sometimes fatal respiratory illness caused by hantaviruses. Hantavirus is spread from rodents (primarily the deer mouse in Arizona) to people through airborne transmission from viral droplets spread through handling or stirring up materials contaminated with rodent urine, saliva or feces. Areas around the home or work where rodents may live (e.g., houses, barns, outbuildings, and sheds) are potential sites where people may be exposed to the virus. Hantavirus is not spread person-to-person. Although cases have historically been found across Arizona, they are most reported in the northern part of the state.

Signs of hantavirus infection usually occur within 1–5 weeks after exposure; however, a faster symptom onset can occur.

For more information visit:

https://www.cdc.gov/hantavirus/hcp/clinical-overview/index.html