

Hantavirus Survivors Show Long-Term Effects

BY DAMIAN McNAMARA
Miami Bureau

MIAMI BEACH — Hantavirus survivors commonly experience fatigue, shortness of breath, and myalgias up to 5 years after infection, according to the final summary of a longitudinal, prospective study.

Proteinuria, which may be clinically significant as a predictor of renal disease, is also common in hantavirus survivors, and its incidence rises over time post infection, Diane Goade, M.D., said during a presentation at the annual meeting of the American Society of Tropical Medicine and Hygiene.

Hantavirus pulmonary syndrome is an emerging infectious disease characterized by acute, severe febrile illness and a high mortality rate.

At the time of Dr. Goade's presentation, 363 cases had been identified in the United States.

There was decreased small airway flow in 79% of patients, increased residual volume in 76%, and decreased oxygen diffusion capacity in 66%.

Infected rodents spread the disease through their urine, feces, or saliva.

"We know very little about the long-term effects of this illness. What we found at the end of 5 years was quite striking, even though this was

a young cohort who was relatively healthy," said Dr. Goade, who is with the University of New Mexico, Albuquerque.

The study included 33 survivors of acute hantavirus infection. Researchers assessed participants annually using a wide range of clinical measures, including CBC, viral antibody assays, patient history, and self-reported fatigue and exercise capacity. "We were basically doing a major fishing expedition," Dr. Goade explained.

The participants were 18 males and 15 females ranging in age from 10 to 54 years. There were 18 non-Hispanic whites, 5 Hispanics, 9 African Americans, and 1 Native American.

Sin Nombre virus—the most common pathogen responsible for hantavirus in the United States—accounted for the infections in 32 participants; the other patient was infected with Bayou virus.

At 5 years, mild to moderate pulmonary changes were common and affected the patients' ability to exercise. Although most

pulmonary function parameters were normal, the researchers found a triad of pulmonary abnormalities: decreased small airway flow in 79% of patients, increased residual volume in 76%, and decreased oxygen diffusion capacity in 66%.

Slightly more than half (55%) reported arthralgias and problems with short-term memory; 67% reported inadvertent weight gain (between 2.5 kg and 30 kg); and 84% each reported myalgias and shortness of breath.

Fatigue and decreased exercise tolerance were each reported by 90%, "including a high school wrestling coach who used to run 5 miles a day, who can now only walk about 2 miles a day," Dr. Goade said.

"Proteinuria is increasingly common in the convalescent period and is of concern," Dr. Goade said.

After 5 years, 24-hour urinalysis showed that 11 of the 33 hantavirus survivors had proteinuria, which is "an astounding num-

ber in young, relatively healthy people."

"The further out we go in this longitudinal study, the more renal effects we see," she added.

Proteinuria typically begins about 1 year after the infection and continues to increase. Age, race, gender, and severity of initial infection were not predictive of renal consequences.

"This started out as a fishing expedition, and we were quite surprised by what we found," Dr. Goade commented. ■

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