Correspondence

Serum Antibody Response to the Novel Influenza A (H1N1) Virus in the Elderly

To the Editor—Since its first identification in April 2009 in Mexico and the United States, a previously undescribed influenza A (H1N1) virus has spread globally among humans. Antigenic and genetic analysis has shown that the 2009 H1N1 virus is distinct from current circulating seasonal influenza viruses in humans [1]. On 11 June 2009, the World Health Organization officially declared the outbreak of infection to be a pandemic.[Q1]

The elderly have been listed as a high-risk group for seasonal influenza and for this pandemic H1N1. However, people aged $\geq 65$ years have the lowest incidence of infection thus far, so the elderly are not listed as an initial targeted group for the monovalent 2009 H1N1 vaccination [2]. The antibody response to the 2009 H1N1 virus among the elderly is of particular interest. In Beijing, China, we used hemagglutination inhibition (HI) assay to detect antibody responses to the 2009 H1N1 virus. Serum samples from 32 participants (aged 60–86 years) were collected during April 2009, when the 2009 H1N1 virus had not yet been introduced to China [3]. A second panel of 80 serum samples from the elderly (aged 60–87 years) was collected in September 2009. Only the age, gender, and sample collection.

In addition, among the 80 serum samples collected during September 2009, there were 34 (42.5%) that were positive for the 2009 H1N1 virus. None of the subjects involved has been clinically confirmed to have the 2009 H1N1 influenza, so this substantial increase (from 9.4% to 42.5%) in antibody response to the 2009 H1N1 virus suggests that a substantial proportion of the population has been infected with the 2009 H1N1 virus but shows no clinical symptoms. Modeling studies have demonstrated that the frequency of asymptomatic infection during an influenza pandemic can be nearly 50% [10]. The presence of asymptomatic individuals among the elderly during this 2009 H1N1 pandemic raises concern and might play some role in virus transmission. More information about the transmission dynamics would help in planning the response to the pandemic.

Acknowledgments

Many thanks to Yunling Wei, Bingyin Si, Bohua Liu, Yi Hu, and Shunya Zhu for technical support and sample collection.

Financial support. Major Special Program of National Science and Technology of China (2009ZX10004–204).

Potential conflicts of interest. All authors: no conflicts.

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Clinical Infectious Diseases 2009;50:000–000
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DOI: 10.1086/649552
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