Prolonged Flu Infection Control May Be Warranted

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WASHINGTON — Influenza A virus shedding has been found to last for longer than 5 days, Dr. Surbhi Leekha reported at the annual Interscience Conference on Antimicrobial Agents and Chemotherapy.

"In general, adults are considered to be infectious from a day or two before to approximately 5 days after the onset of symptoms," said Dr. Leekha, an internal medicine resident at the Mayo Clinic.

The Centers for Disease Control and Prevention recommends providing standard precaution and droplet isolation for 5 days after symptom onset in hospitalized patients who are suspected or confirmed to have influenza. It is also recommended that infected health care workers not provide patient care for 5 days after the onset of flu symptoms, and that sick people should not visit hospitalized patients for 5 days after their symptom onset, she said.

But based on the new findings, she said, prolonged infection control should be considered for patients with influenza A, as well as vaccination for all health care workers who care for patients.

Of 50 patients hospitalized at the Mayo Clinic, Rochester, Minn., from December 2004 to March 2005, 22 (44%) were found to have influenza virus shedding on day 7 after symptom onset, Dr. Leekha said.

Patients were considered for study inclusion if they were older than 18 years and were hospitalized with lab-confirmed influenza A. The 50 patients enrolled in the study ranged in age from 21 to 91 years (mean age 76), and 62% were male, Dr. Leekha said. She and her associates excluded patients for whom they could not obtain written consent.

Almost all study participants had one or more underlying chronic medical conditions. Of the 50 patients, 81% had received an influenza vaccination; 54% were undergoing antiviral therapy.

Throat swabs were taken at symptom initiation, and then again at days 2, 3, 5, and 7 and then tested by culture and polymerase chain reaction (PCR) if the patient was still hospitalized, Dr. Leekha said.

"Positivity falls with increasing duration from symptom onset. But even beyond day 5, several samples continue to be positive," she said.

A greater than expected proportion of hospitalized patients continued to shed detectable virus beyond 7 days from symptom onset.

At day 7, 22 patients were still shedding the influenza virus as detected by PCR, and 12 patients were shedding as detected by cultures. Of the 22 positive patients, the median age was 76 years, 64% were male, 71% had received a flu vaccination, 50% were receiving antiviral therapy, 4 had an identifiable cause of immunosuppression, and their median hospital stay was 6 days, Dr. Leekha said.

The longest shedding duration lasted for 14 days as detected by all three methods.

A greater than expected proportion of hospitalized patients with influenza A continued to shed detectable virus beyond 7 days from symptom onset in the study, Dr. Leekha said.

"Such prolonged shedding of influenza A virus has previously been shown in immunocompromised adults, also in children, and has been associated with drug-resistant strains in both these populations in previous studies. However, there are no studies of viral shedding in adults with other chronic illnesses," she said.

Influenza immunity declines with age and is multifactorial, so "it is possible that adult patients who are hospitalized with influenza represent an older and sicker cohort of patients who may possibly be infected for longer than the traditional period of infectivity," Dr. Leekha said.

Other study limitations as noted by Dr. Leekha include: The period of detection by PCR was greater than by culture detection methods; it is unclear if detection of the flu virus equals infectivity; and not all patients who tested negative were retested because patients were not followed after hospital release, so shedding duration is unknown.

Larger samples should be studied, outpatients should be tested for virus shedding, and patients should be followed until viral completion. The correlation between viral shedding and infectivity should also be explored, she said. ■

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