

Final Report Confirms Cluster of Oseltamivir (Tamiflu)-Resistant H1N1 Influenza at Duke Hospital

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(PhysOrg.com) -- An outbreak last fall of oseltamivir (Tamiflu)-resistant H1N1 influenza at Duke University Hospital may have been the result of viral transmission between patients.

Four patients in a hematology-oncology ward at Duke University Hospital became symptomatic of fever and respiratory symptoms during a six-day period from October 6-11, 2009. They were subsequently diagnosed with oseltamivir-resistant [H1N1](#) influenza.

All four patients were ill with underlying severely compromised immune systems and other complex medical conditions.

Duke and a team of experts from the [Centers for Disease Control and Prevention](#) (CDC) and the State of North Carolina Public Health Department collaborated to investigate the nature of these cases. Their findings were presented at the Fifth Decennial International Conference on Healthcare-Associated Infections on March 20 in Atlanta, Georgia.

“We found that the oseltamivir-resistant H1N1 influenza were isolated to the four patients. There was no evidence of spread to additional patients or caregivers on the affected ward,” said Luke Chen, MD, an infectious diseases specialist at Duke University Medical Center.

The team carried out an epidemiologic investigation and extensively

reviewed patients' medical records, infection control measures, and interviewed visitors and health care personnel.

“We were not able to establish that health care workers or visitors had a role in the transmission.”

“We found that our infection control plans were properly implemented,” Chen said. “The compliance to [hand hygiene](#) is monitored by objective auditors at Duke Hospital. The hand hygiene compliance on the affected ward was greater than 92 percent during the study period -- much higher than reports from other institutions. We also implemented contact isolation in addition to droplet precautions for severely immunocompromised patients. At the time of the four infections, the hospital was also operating with a visitor restriction policy, which recommended visits only from adult members of the patient's immediate family or designated caregivers.”

Among hospitalized patients, influenza can often be hidden under other conditions and the suspicion for influenza might be low because many patients have other medical problems that could be causing their fever or respiratory symptoms, according to Chen.

“One key thing we can learn from this outbreak is that all clinicians and health care workers should suspect the diagnosis of influenza even among very ill patients, who have multiple medical problems,” Chen said. “We should include [influenza](#) in the diagnostic thought process early on and act on it by doing specific tests and placing these patients in appropriate isolation prior to obtaining the results of these tests.”

Provided by Duke University

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