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Maryland's First Cases of Oseltamivir-resistant H1N1 Influenza

Two cases of oseltamivir (Tamiflu)-resistant H1N1 influenza infection have been identified in Maryland. These cases were diagnosed during October and November hospitalizations and in both cases the patients recovered from influenza. Both resistant cases had immunosuppression, which is an identified risk factor for the development of antiviral resistance.

The initial case was detected through routine surveillance testing for resistant H1N1 influenza by the Maryland Department of Health and Mental Hygiene (DHMH) Laboratories Administration. The DHMH results were reproduced by the U.S. Centers for Disease Control and Prevention. Therefore, CDC will consider future resistance testing results by DHMH to be confirmatory. The second case was initially suspected by the treating clinicians in a patient who continued to test positive for flu despite antiviral treatment. This case has been confirmed by DHMH.

The two resistant cases do not appear to be linked to each other. Although there is no indication that the resistant virus has spread to any contacts, DHMH is working with local health care facilities and health departments (Harford and Baltimore City) to further investigate and describe this situation. The resistant strain (with the H275Y mutation) is presumed preventable by the H1N1 vaccine and can be treated by alternative antiviral medication.

Worldwide, there have been a small number of oseltamivir-resistant H1N1 influenza cases identified by public health authorities. The majority of these cases have occurred among immunosuppressed patients with hematologic malignancies undergoing oseltamivir treatment for influenza symptoms. There are several cases of these resistant viruses being transmitted in the health care environment or in group settings. **This information is especially important for providers of patients with hematologic malignancies who are undergoing antiviral therapy.**

Should health care providers become aware of patients who are undergoing antiviral therapy for influenza but are repeatedly testing positive or recurring with influenza symptoms, notify DHMH for further discussion and possible investigation. The state public health laboratory conducts influenza resistance testing as a surveillance tool, not as a clinical service, and may not be able to routinely test for resistant influenza viruses to guide clinical management decisions.

The results of DHMH resistance testing is on the DHMH Web site:

<http://www.dhmh.state.md.us/labs/>.

This site will not list details about the case-patients; nor will specific jurisdictions be reported.

In addition, the information will be forwarded to the CDC and updated each week on their FluView Web site: <http://www.cdc.gov/flu/weekly/>.