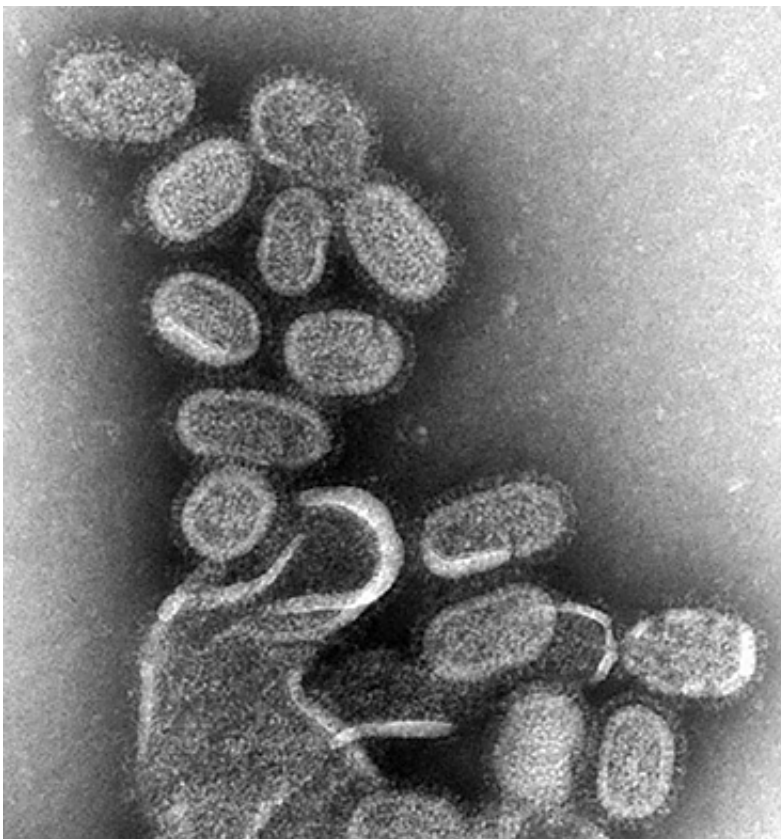


Negative rapid test results may delay antiviral therapy in patients with severe influenza

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Electron microscopy of influenza virus. Credit: CDC

A new study has found that half of influenza cases in patients admitted to the intensive care unit (ICU) received a false negative rapid influenza

antigen test (RIAT). The false negative RIAT results could delay antiviral therapy for patients who were in the ICU with severe influenza. The research is presented at ASM Microbe, the American Society for Microbiology's annual meeting, held from June 7th through 11th in Atlanta, Georgia.

The researchers, led by Po-Yen Huang, MD, Chang-Gung Memoria Hospital, Taoyuan, Taiwan, performed a retrospective analysis of 307 patients with [influenza](#) requiring ICU admission at Chang-Gung Memorial Hospital, a tertiary medical center in Taiwan, from August 2009 to July 2017. Of these 307 cases of confirmed influenza, RIAT was performed on 259 with 126 (49%) testing negative. Among the 307 cases, 45 (15%) either tested negative on all upper respiratory tract (URT) samples or did not have URT samples tested. The diagnosis of these 45 cases instead relied on the tests from [lower respiratory tract](#) (LRT) samples.

RIAT is a popular at point-of-care settings since it provides physicians readily available results. A positive test result with its high specificity confirms the diagnosis of influenza. However, a negative test result and its low sensitivity often misleads physicians to exclude the influenza diagnosis. About half of the cases in the study had negative RIAT results. A substantial portion (15%) of the patients were ultimately diagnosed solely by testing lower respiratory tract (LRT) samples. Influenza diagnoses could not be based on the results of RIAT.

"As physicians specialized in infectious disease, we advocate that testing of the LRT samples are crucial for diagnosis of severe influenza with critical illness," said Dr. Huang.

Compared to the RIAT positive [cases](#), the RIAT negative patients shared similar clinical characteristics except they required longer ICU stays (median 12 vs. 9 days) and longer ventilator days (median 12 vs. 6 days).

Furthermore, antiviral treatment was significantly delayed in the RIAT negative patients (median 1 vs. 0 days).

"Negative RIAT results delayed treatment with antiviral medication," said Dr. Huang, MD. "Decision-making for antiviral medication based on RIAT results should be discouraged. Prompt empiric antiviral medication should be provided to all critically ill [patients](#) with severe respiratory infection."

Provided by American Society for Microbiology

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