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Rapid-Test Sensitivity for Novel Swine-Origin Influenza A (H1N1) Virus in Humans

TO THE EDITOR: Faix et al. (Aug. 13 issue)¹ highlight the moderate sensitivity of rapid antigen tests as compared with reverse-transcriptase-polymerase-chain-reaction (RT-PCR) assays in detecting the 2009 pandemic influenza A (H1N1) virus in infected patients. We found that the antigen tests had poor sensitivity to the virus when used in a subgroup of 21 patients in the Australian intensive care cohort with severe 2009 influenza A (H1N1) virus infection and acute lung injury that required mechanical ventilation.² In these patients, rapid antigen tests (QuickVue A+B, Quidel) were performed on swabs from the nose and throat, and influenza type-specific immunofluorescent antigen assays (Chemicon, Millipore) were performed on bronchoscopic specimens. In all 21 patients, RT-PCR testing (AusDiagnostics), performed on specimens from both the upper and lower respiratory tracts, had been used to confirm infection with the virus.

Specimens from the lower respiratory tract were positive for the virus in all patients when tested with RT-PCR; immunofluorescent antigen assays were positive in only 5 of 20 patients (25%). Specimens from the upper respiratory tract tested with RT-PCR were positive in 17 of 21 patients (81%), but rapid antigen tests were positive in only 5 of 20 (25%). These data highlight the need to carefully interpret diagnostic testing for 2009 influenza A (H1N1) virus infection. The type of assay used and the origins of the sample tested — that is, whether it is from the upper or the lower respiratory tract — may affect the accuracy of the diagnostic testing.

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1. Faix DJ, Sherman SS, Waterman SH. Rapid-test sensitivity for novel swine-origin influenza A (H1N1) virus in humans. *N Engl J Med* 2009;361:728-9.

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