

13 October 2009

This supplement has been prepared to present scientific and technical news items that may be of more interest to technical personnel at RDT&E activities and the labs, or the medics rather than the broader readership of the basic CB Daily. Due to the nature of the material, the articles, if available online, are usually only available through subscription services thus making specific links generally unavailable. Thus, usually only the bibliographic citation is available for use by an activity's technical library.

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Chem-Bio News – Pandemic Influenza Edition #82

- 1. [SAUDI ARABIA] QUARANTINE TENTS ERECTED IN MINA:** *“Riyadh Saudi Arabian authorities have completed arrangements to prevent an H1N1 virus outbreak when Haj pilgrims start arriving in two weeks.”*
- 2. MOLECULAR DETECTION OF A NOVEL HUMAN INFLUENZA (H1N1) OF PANDEMIC POTENTIAL BY CONVENTIONAL AND REAL-TIME QUANTITATIVE RT-PCR ASSAYS:** *“These assays appear useful for the rapid diagnosis of cases with the novel H1N1 virus, thereby allowing better pandemic preparedness.”*
- 3. HOSPITAL WORKERS' CLOTHING INADEQUATE TO PROTECT AGAINST H1N1, SAYS VETERAN PROTECTIVE CLOTHING MAKER:** *“APTRA, says Kappler, is then turned into a fabric that passes international standards for blood borne pathogen and viral penetration by Kappler, Inc. and other companies.”*
- 4. MOST CRITICAL AND FATAL CASES OF 2009 INFLUENZA A(H1N1) INITIAL OUTBREAK WERE HEALTHY ADOLESCENTS AND YOUNG ADULTS:** *“Both studies show strikingly similar results: patients were in the main relatively healthy adolescents and young adults who had a brief period of illness with no specific symptoms followed by rapidly progressive respiratory failure, and in many cases, shock and multisystem organ failure too.”*

CB Daily Report

Chem-Bio News

[SAUDI ARABIA] QUARANTINE TENTS ERECTED IN MINA

Zawya.com

October 07, 2009

“Riyadh Saudi Arabian authorities have completed arrangements to prevent an H1N1 virus

outbreak when Haj pilgrims start arriving in two weeks.

"There will be quarantine facilities at the tent city of Mina, where some 3 million pilgrims will spend most of the time during the six-day Haj ritual. Swine flu infected pilgrims will be moved to the quarantine tents, arranged by the haj and Umrah committees for the purpose," a source said.

Those working at Haj service offices urged the authorities to ensure that all the pilgrims get vaccinated against swine flu at their own countries at least two weeks before setting out for the pilgrimage.

They expressed apprehension that some countries may send their pilgrims without getting them vaccinated against the pandemic."

The full article can be found at: http://www.zawya.com/Story.cfm/sidGN_07102009_10355321/Quarantine%20tents%20erected%20in%20Mina

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MOLECULAR DETECTION OF A NOVEL HUMAN INFLUENZA (H1N1) OF PANDEMIC POTENTIAL BY CONVENTIONAL AND REAL-TIME QUANTITATIVE RT-PCR ASSAYS

Health Risk Factor Week

October 6, 2009

"Molecular tests for rapid detection of this virus are urgently needed. We developed a conventional I-step RT-PCR assay and a I-step quantitative real-time RT-PCR assay to detect the novel H1N1 virus, but not the seasonal H1N1 viruses. We also developed an additional real-time RTPCR that can discriminate the novel H1N1 from other swine and human H1 subtype viruses. All of the assays had detection limits for the positive control in the range of 1.0×10^{-4} to 2.0×10^{-3} of the median tissue Culture infective dose. Assay specificities were high, and for the conventional and real-time assays, all negative control samples were negative, including 7 human seasonal H1N1 viruses, 1 human H2N2 virus, 2 human seasonal H3N2 viruses, 1 human H5N1 virus, 7 avian influenza viruses (HA subtypes 4,5,7, 8,9, and 10), and 48 nasopharyngeal aspirates (NPAs) from patients with noninfluenza respiratory diseases; for the assay that discriminates the novel H1N1 from other swine and human H1 subtype viruses, all negative controls were also negative, including 20 control NPAs, 2 seasonal human H1N1 viruses, 2 seasonal human H3N2 viruses, and 2 human H5N1 viruses."

"These assays appear useful for the rapid diagnosis of cases with the novel H1N1 virus, thereby allowing better pandemic preparedness."

The full article can be found at: (L.L.M. Poon, et. al., "Molecular Detection of a Novel Human Influenza (H1N1) of Pandemic Potential by Conventional and Real-Time Quantitative RT-PCR Assays". *Clinical Chemistry*, 2009; 55(8): 1555-1558). Link not available.

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HOSPITAL WORKERS' CLOTHING INADEQUATE TO PROTECT AGAINST H1N1, SAYS VETERAN PROTECTIVE CLOTHING MAKER

Government Security News

October 07, 2009

“That’s the message from George Kappler, a 33-year veteran in the protective garment business and the CEO of the company that bears his name and makes a line of healthcare garments called Provent 10,000.

The garments are made from APTRA, a breathable microporous film made in Tiverton, ON, Canada by BI-AX Inc., creators of innovative plastic as well as compostable, biodegradable bio-plastic films, says Kappler.”

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“APTRA, says Kappler, is then turned into a fabric that passes international standards for blood borne pathogen and viral penetration by Kappler, Inc. and other companies.

Provent 10,000 customers include the Centers for Disease Control and National Institutes of Health, among others, according to Kappler.

A single Provent 10,000 gown costs \$7 to \$10, the company says.”

The full article can be found at: <http://www.gsnmagazine.com/cms/industry-sectors/disaster-preparedness/2759.html>

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MOST CRITICAL AND FATAL CASES OF 2009 INFLUENZA A(H1N1) INITIAL OUTBREAK WERE HEALTHY ADOLESCENTS AND YOUNG ADULTS

Medical News Today

October 13, 2009

“A cluster of new studies examining intensive care unit (ICU) cases of 2009 Influenza A (H1N1) swine flu in the initial outbreak of the disease in Mexico, Canada, and then later in Australia and New Zealand, has once again pointed to the unusual propensity for the most severely affected patients to be relatively healthy adolescents and young adults. The studies also highlight the sudden demand and burden placed on critical care resources during such an outbreak, raising questions about whether they are equipped to cope with a similar demand this fall and winter, should it occur.

The three studies and an accompanying editorial appear in the 12 October issue of JAMA, Journal of the American Medical Association.

In the first study, researchers observed 58 patients with H1N1-related disease admitted to 6 ICUs in Mexico City during spring 2009, and in the second study, researchers observed 168 similarly ill patients admitted to 38 ICUs throughout Canada.

Both studies show strikingly similar results: patients were in the main relatively healthy adolescents and young adults who had a brief period of illness with no specific symptoms followed by rapidly progressive respiratory failure, and in many cases, shock and multisystem organ failure too.

For these ICU patients, hypoxemia (where there is not enough oxygen in the blood) was prolonged and severe, and on average they needed 12 days of mechanical ventilation and, as explained in the editorial accompanying the studies, the ICU staff frequently had to administer rescue therapies such as high-frequency oscillatory ventilation, prone positioning, neuromuscular blockade, and inhaled nitric oxide."

The full article can be found at: <http://www.medicalnewstoday.com/articles/167101.php>

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