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DHEC Health Update

Distributed via Health Alert Network
October 2, 2009 5:00 pm
10184-DAD-10-02-09-H1N1

Consideration of Bacterial Coinfections in Severely Ill or Hospitalized Influenza Patients

Background

On September 29, 2009, the CDC posted an early release of a *Morbidity and Mortality Weekly Report (MMWR)* article demonstrating bacterial coinfections in lung tissue of 29% (n=22) of 77 post-mortem specimens submitted to the CDC between May 1 and August 20, 2009. These patients also had clinical evidence of pneumonia. **As in previous pandemics, notably the 1918-19 H1N1 "Spanish Flu" pandemic, pneumonia caused by bacterial coinfection is identified as a major cause of mortality among persons with influenza.**

Bacteria identified included *Streptococcus pneumoniae* (pneumococcus, n=10), group A Streptococcus (*Strep. pyogenes*, n=6), *Staphylococcus aureus* (7), *Strep. mitis* (2), *Haemophilus influenzae* (1), and multiple pathogens (4). These samples were collected from younger persons (median age 31, range 2-56) than might typically be expected to have pneumonia coinfection during an influenza season. 16 of 21 patients with an available medical history had at least one underlying medical condition that is known to increase the risk of complications from influenza or had an indication for pneumococcal vaccination.

Considerations for Medical Management

Bacterial coinfection should be considered in any patient experiencing a severe course of confirmed or suspected H1N1 influenza. Empiric treatment with antibiotics that have coverage for these pathogens, including antibiotic-resistant strains of *Staph. aureus*, should be considered as part of the treatment plan in severe cases or patients hospitalized with H1N1. This therapy is in addition to antivirals used for treatment.

Prevention

1. Prevention of Pneumococcal Coinfection

These findings demonstrate the importance of pneumococcal vaccination for recommended groups. There are two vaccines against pneumococcal infection that are licensed in the US.

- **Pneumococcal conjugate vaccine (7-valent, PCV7) is recommended for all children under 5 years of age.** It is given as a routine series to children 2-23 months of age, or as a single dose to children 24-59 months of age who are not completely vaccinated for their age. (2009 Recommended Immunization Schedule for Persons Aged 0-6 Years: http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2009/09_0-6yrs_schedule_pr.pdf)
- **The pneumococcal polysaccharide vaccine (23-valent, PPSV23) is recommended for all persons 2-64 years of age with high risk conditions, and for all persons 65 years of age and older.** http://www.cdc.gov/h1n1flu/guidance/pspv_h1n1.htm.

2. Prevention of Influenza

Immunizations remains the best way to prevent influenza illness. Novel H1N1 vaccine should be used according to previously published recommendations.

- CDC: <http://www.cdc.gov/h1n1flu/vaccination/acip.htm>.
- ACIP recommendations in the August 28, 2009 *MMWR*: <http://www.cdc.gov/mmwr/PDF/rr/rr5810.pdf>) as soon as vaccine supplies become available.

Handwashing, cough etiquette and other social distancing measure may also mitigate the spread of influenza in a community and lessen the risks of bacterial coinfection.

For More Information

- This *MMWR* article, Bacterial Coinfections in Lung Tissue Specimens from Fatal Cases of 2009 Pandemic Influenza A (H1N1) — United States, May-August 2009, is available at <http://www.cdc.gov/MMWR/pdf/wk/mm58e0929.pdf>.
- Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season, is available at: <http://www.cdc.gov/h1n1flu/recommendations.htm>

DHEC Contact Information for Reportable Diseases

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

Regional Public Health Offices – 2009

Reports should be directed to the Epidemiology Office in each Public Health Region.

Region 1

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