

19A Linked to Necrotizing Pneumonia

BY HEIDI SPLETE
Senior Writer

WASHINGTON — Serotype 19A of *Streptococcus pneumoniae* is the culprit behind some complicated cases of necrotizing pneumonia in young children, based on findings from four cases that occurred between September 7, 2007, and March 30, 2008, at a single hospital.

“Severe necrotizing pneumonia caused by this serotype had not previously been reported in children,” explained Dr. Susan Wootton of the University of Texas, Houston, who presented the cases with her associates in a poster at the jointly held annual meeting of the Interscience Conference on Antimicrobial Agents and Chemotherapy and the annual meeting of the Infectious Diseases Society of America.

The 19A strain is one of several that are not included in the current pneumococcal conjugate vaccine, PCV7. Data from the Centers for Disease Control and Prevention that also were presented at the meeting showed an increase in invasive pneumococcal disease from nonvaccine serotypes in all age groups.

The four children ranged in age from 3 to 4 years (mean age, 3.4 years). Of these, three were previously healthy and one had asthma. All four had been vaccinated with PCV7. *S. pneumoniae* was isolated from pleural fluid in three cases and from blood in three cases.

Chest radiographs revealed multilobar infiltrates in four children, empyema in three children, and pneumatoceles in two children. Overall, three children were admitted to the intensive care unit and intubated 5-22 days, with an average of 11 days. In addition, three children had abscesses that required surgical drainage. The hospital stays ranged from 11 to 28 days (average stay, 19 days).

Serotype 19A has not previously been reported as a cause of complicated pneumonia in children, but these cases suggest that it should now be considered in the differential diagnosis, Dr. Wootton and her associates noted.

This study was limited by its small size and narrow geographical scope, and more research is needed to assess the large-scale impact of serotype 19A on necrotizing pneumonia. But the results support the need for an expanded pneumococcal vaccine for children in the United States, they said.

Dr. Wootton stated that she had no financial conflicts to disclose. ■

Coronavirus Adds Respiratory Symptoms

BY HEIDI SPLETE
Senior Writer

WASHINGTON — Two types of newly recognized coronavirus were identified in stool samples of patients with gastrointestinal disease, and more than half of those patients also had respiratory symptoms, based on data from more than 400 adults and children.

A total of nine stool samples that tested negative for *Clostridium difficile* instead tested positive for one of two strains of

human coronavirus, HCoV-NL63 and HCoV-HKU1, said Dr. Frank Esper, a pediatrician and infectious disease specialist at the Rainbow Babies and Children's Hospital in Cleveland.

Dr. Esper presented the findings at the jointly held annual Interscience Conference on Antimicrobial Agents and Chemotherapy and the annual meeting of the Infectious Diseases Society of America.

These two coronaviruses have been associated with upper and lower respiratory

tract disease in previous studies, he said.

During the severe acute respiratory syndrome (SARS) outbreak in 2002-2003, enteric involvement was reported in more than 70% of patients during their illnesses, and coronavirus RNA was found in stool samples from SARS patients, Dr. Esper noted.

In the current study, Dr. Esper and his colleagues examined the association of coronaviruses with gastrointestinal illness in children and adults.

The researchers collected stool sam-

Start with proven protection...
sprinkle in fewer injections...
and watch her emerge^{1,2}



Indication

Pentacel vaccine is indicated for active immunization against diphtheria, tetanus, pertussis, poliomyelitis, and invasive disease due to *Haemophilus influenzae* type b. Pentacel vaccine is approved for use in children 6 weeks through 4 years of age (prior to fifth birthday).

Safety Information

The most common local and systemic adverse reactions to Pentacel vaccine include injection site redness, swelling, and tenderness; fever, fussiness, and crying. Other adverse reactions may occur. Known systemic hypersensitivity reaction to any component of Pentacel vaccine or a life-threatening reaction after previous administration of the vaccine or a vaccine containing the same substances are contraindications to vaccination.

The decision to give Pentacel vaccine should be based on the potential benefits and risks; if Guillain-Barré syndrome has occurred within 6 weeks of receipt of a prior vaccine containing tetanus toxoid; or if adverse events have occurred in temporal relation to receipt of pertussis-containing vaccine. Encephalopathy within 7 days of administration of a previous dose of a pertussis-containing vaccine or a progressive neurologic disorder is a contraindication. Vaccination with Pentacel vaccine may not protect all individuals.

Before administering Pentacel vaccine, please see accompanying brief summary of full Prescribing Information.

Pentacel vaccine is manufactured by Sanofi Pasteur Limited and Sanofi Pasteur SA and distributed by Sanofi Pasteur Inc. DAPTACEL vaccine is manufactured by Sanofi Pasteur Limited and distributed by Sanofi Pasteur Inc.

ples at a single hospital between Dec. 1, 2007, and March 31, 2008. They examined samples from 328 adults (average age 62 years) and 151 children younger than 18 years (average age 4 years). They extracted nucleic acid from each stool sample and screened for coronavirus using a polymerase chain reaction test.

Nine samples (2.7%) screened positive for coronaviruses, including four samples

from adults and five from children. Overall, 78% of the positive samples were HKU1 and 22% were NL63. None of the stool samples screened positive for norovirus or rotavirus, but two samples with coronavirus were also positive for enteric adenovirus, Dr. Esper said.

All of the samples that tested positive for NL63 came from adults, but the majority (five of seven samples) that tested positive

for HKU1 came from children.

Clinical gastrointestinal characteristics in patients with coronavirus-positive stool included gastrointestinal illness, diarrhea, and abdominal pain. "Over 50% of the patients with coronavirus also had respiratory tract findings," Dr. Esper noted. Respiratory symptoms included difficulty breathing, coughing, and rhinorrhea.

More research is needed, but the current study is an important step toward understanding a link between respiratory disease and gastrointestinal disease in coronavirus infections, he said.

Dr. Esper stated that he had no financial conflicts to disclose. ■

Over 50% of the patients with coronavirus also had respiratory tract findings; respiratory symptoms included difficulty breathing, coughing, and rhinorrhea.

VERBATIM

'Remember that many of our deployed troops are 18, 19, and 20 years old—the age of many adolescent patients in our practices. These deployments, of course, put a great deal of stress on our military colleagues.'

Dr. Lee Savio Beers, p. 31

sanofi pasteur

The vaccines division of sanofi-aventis Group



Introducing the First and Only
4-dose DTaP-IPV/Hib^a Vaccine¹

Confident

The same 5 acellular pertussis antigens found in DAPTACEL[®] (Diphtheria and Tetanus Toxoids and Acellular Pertussis Vaccine Adsorbed)¹

— Pentacel and DAPTACEL vaccines contain the same pertussis antigens manufactured by the same process, but Pentacel vaccine contains twice as much inactivated PT^e and 4 times as much FHA^c as DAPTACEL vaccine

A primary pertussis immunization series consists of 4 doses of Pentacel vaccine¹

Comfort and Convenience

Offers the greatest reduction in the number of injections of any available combination vaccine^{2,3,d}

A pentavalent that supports the CDC^e HepB at birth dosing recommendations^{3,4}

Confirmed

Safety established in over 5000 infants 2-18 months of age who received at least 1 dose of Pentacel vaccine¹

The most common local and systemic adverse reactions to Pentacel vaccine include injection site redness, swelling, and tenderness; fever, fussiness, and crying

Consistent

More than 14 million doses distributed in Canada during a decade of use⁵


CPT^{®f} Code: 90698

To order Pentacel vaccine, log onto **VaccineShoppe.com[®]** or call **1-800-VACCINE** (1-800-822-2463).

For more information, please visit **pentacel.com**.

^a DTaP = Diphtheria, tetanus, and acellular pertussis; IPV = Inactivated poliovirus; Hib = *Haemophilus influenzae* type b. ^b PT = Pertussis toxin detoxified. ^c FHA = Filamentous hemagglutinin. ^d Maximum shot reduction is achieved during first 18 months of age. ^e CDC = Centers for Disease Control and Prevention. ^f CPT = Current Procedural Terminology is a registered trademark of the American Medical Association.

References: 1. Pentacel vaccine [Prescribing Information]. Swiftwater, PA: Sanofi Pasteur Inc.; 2008. 2. Centers for Disease Control and Prevention (CDC). Recommended immunization schedules for persons aged 0-18 years—United States, 2008. *MMWR*. 2008;57(1):Q1–Q4. 3. Food and Drug Administration. Pentacel[®]: DTaP-IPV/Hib Combined (diphtheria and tetanus toxoids and acellular pertussis adsorbed, inactivated poliovirus and *Haemophilus b* conjugate [tetanus toxoid conjugate] vaccine combined). VRBPAC Briefing Document. <http://www.fda.gov/ohrms/dockets/ac/07/briefing/2007-4275B1-01.pdf>. Accessed April 2, 2008. 4. CDC. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP); part 1: immunization of infants, children, and adolescents. *MMWR*. 2005;54(RR-16):2,13. 5. Sanofi Pasteur Limited. Data on file (Pentacel Doses Sold), March 2008. MKT15262.

NEW
 **Pentacel[®]**
Diphtheria and Tetanus Toxoids and
Acellular Pertussis Adsorbed, Inactivated
Poliovirus and *Haemophilus b* Conjugate
(Tetanus Toxoid Conjugate) Vaccine
Protection To Grow On

sanofi pasteur. Discovery Drive. Swiftwater, Pennsylvania 18370. www.sanofipasteur.us