

# Value of Early Meningococcal Symptoms Debated

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Recognition of the early meningococcal disease features of leg pain, cold hands and feet, and abnormal skin color may help get children to the hospital faster than classic symptoms that occur later in the illness, reported Dr. Matthew J. Thompson of the University of Oxford (England) and his associates.

The information about early symptoms

came from a retrospective study that provides the first description of the time course of clinical features of meningococcal disease that occur before hospital admission, they said (Lancet 2006 Jan. 11 [Epub doi:10.1016/S0140-6736(06)67932-4]).

Meningococcal disease is typically diagnosed in children at presentation to a hospital after the onset of late-occurring classic symptoms, which include hemorrhagic rash, meningism, and impaired consciousness.

“We believe that primary care physicians are overreliant on using these three [classic] symptoms to diagnose meningococcal disease in children, and that parents may be influenced by doctors or public health campaigns to seek medical advice only on the appearance of features such as a rapidly evolving rash,” according to Dr. Thompson and his associates.

But Dr. Keith S. Reisinger, a pediatrician in private practice in Pittsburgh, contended that these early symptoms “are not spe-

cific enough to alarm a parent or doctor.”

In the study, parents of 448 children and adolescents with meningococcal disease either completed a questionnaire or an interview regarding the course of their child's disease an average of about 140 days after the illness; in some cases, the questionnaire or interview was supplemented by medical records. Those three early features of meningococcal disease occurred within a median of 7-12 hours after the onset of illness, compared with a median time of onset of 13-22 hours for the three classic symptoms.

The three early features of the disease in children aged 0-16 years varied in frequency and the median hour of onset: cold hands and feet (43% and 12 hours),

leg pain (37% and 7 hours), and abnormal color such as pallor or mottling (19% and 10 hours).

Most (72%) of the pediatric patients had one or more of the three early features of meningococcal disease. These were first noticed at a median of 8 hours after the onset of illness, whereas patients were admitted to the hospital a median of 19 hours after the onset of illness.

Few children developed any new symptoms after 24 hours and in all age groups symptoms progressed from fever to sepsis symptoms and then to classic symptoms. Nonspecific symptoms that are common in self-limiting viral illness, such as fever, poor feeding or decreased appetite, nausea, vomiting, and irritability, developed within the first 4-6 hours of disease onset.

Dr. Thompson and his colleagues said that because these earliest symptoms are so common, it is important for parents to be able to consult their doctor on the same day as their initial visit if their child's condition worsens.

But these symptoms are of just as little value as leg pain, cold hands and feet, and abnormal skin color because they are so nonspecific, Dr. Reisinger said in an interview.

The investigators did not have data on the frequency of symptoms or the course of illness of children with other illnesses outside of the hospital, and so they could not make any quantitative estimate of how sensitive or specific the early symptoms could be as diagnostic markers.

“Unfortunately, [the investigators] ignore these limitations and go on to say these findings have ‘important implications’ for parents and clinicians,” Dr. Reisinger said.

“The greatest limitation of the study is the retrospective nature of recollection by the parents. All these families went through a very traumatic event, and we are left with no idea how accurate their recollections are,” he added. ■

## ADVERTISEMENT

# COPD

or asthma: Not the same

Chronic obstructive pulmonary disease (COPD)—including chronic bronchitis and emphysema—is a distinct disease, yet often patients who have respiratory symptoms are misdiagnosed with asthma. However, patients can present with symptoms of COPD as early as age 40.<sup>1</sup> Therefore, physicians should think of COPD first in this patient population.

► **Misdiagnosis can lead to suboptimal treatment** COPD and asthma have a similar presentation: cough and/or wheezing as well as an element of airflow limitation reversibility can be present in both diseases.<sup>2,4</sup> This may present a challenge in making a differential diagnosis.

**A diagnosis of COPD should be considered first if patients present with a history of smoking and respiratory symptoms**, such as cough, sputum production, dyspnea, or wheezing.<sup>2,3</sup>

Of course, spirometry must still be used to confirm the diagnosis.<sup>2</sup> Once COPD is confirmed, a review of the postbronchodilator FEV<sub>1</sub> will help determine the severity level and indicate whether maintenance therapy should be prescribed.<sup>3</sup>

Some physicians may assume that patients with COPD also have asthma and treat them accordingly. However, the overlap between COPD and asthma is surprisingly low.

**Specifically, only 10%–20% of patients with COPD have concomitant asthma.**<sup>5-10</sup>

► **Proper diagnosis leads to appropriate intervention** Because the pathophysiology of asthma and COPD are quite distinct, they should be treated differently.<sup>5</sup> For first-line maintenance therapy, evidence-based guidelines recommend the following:

Recommended first-line maintenance therapy	
COPD	Long-acting bronchodilators <sup>3</sup>
Asthma	Inhaled corticosteroids <sup>4</sup>

► **Improving COPD management** As we enter 2006, Boehringer Ingelheim Pharmaceuticals, Inc. and Pfizer Inc are continuing their efforts to expand the body of knowledge that exists about COPD. This information may help provide physicians with the facts to improve the diagnosis and management of COPD—and improve the quality of care for COPD patients.

**References:** 1. U.S. Department of Health and Human Services, National Heart, Lung, and Blood Institute. What makes COPD more likely? Available at: [http://www.nhlbi.nih.gov/health/dci/Diseases/Copd/Copd\\_WhosAtRisk.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Copd/Copd_WhosAtRisk.html). Accessed on October 14, 2005. 2. Celli BR, MacNee W, and ATS/ERS Task Force committee members. Standards for the diagnosis and treatment of patients with COPD: a summary of the ATS/ERS position paper. *Eur Respir J*. 2004;23:932-946. 3. Global Initiative for Chronic Obstructive Lung Disease. *Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease: Updated 2004*. Bethesda, Md/Geneva, Switzerland: National Heart, Lung, and Blood Institute/World Health Organization; 2004. Available at: <http://www.goldcopd.org>. Accessed October 14, 2005. 4. Global Initiative for Asthma. *Global Strategy for Asthma Management and Prevention: Updated 2004*. Bethesda, Md: National Heart, Lung, and Blood Institute; 2004. NIH publication no. 02-3659. (Issued January 1995; updated October 2004). Available at: <http://www.ginaasthma.com>. Accessed October 14, 2005. 5. Doherty DE. The pathophysiology of airway dysfunction. *Am J Med*. 2004;117:115-235. 6. Soriano JB, Davis KJ, Coleman B, et al. The proportional Venn diagram of obstructive lung disease: two approximations from the United States and the United Kingdom. *Chest*. 2003;124:474-481. 7. Barnes PJ. Mechanisms in COPD: differences from asthma. *Chest*. 2000;117:105-145. 8. Crockett T. Asthma and COPD: chalk and cheese? *New Generalist*. 2003;1:19-22. Available at: <http://www.rcgp.org.uk/publications/TNG/Spring03/COPDandasthma.pdf>. Accessed October 14, 2005. 9. Jeffery P, Nicholson A, Corrin B, et al. The pathology of COPD. Available at: <http://www.tlmed.com>. Accessed October 14, 2005. 10. Viegi G, Matteelli G, Angino A, et al. The proportional Venn diagram of obstructive lung disease in the Italian general population. *Chest*. 2004;126:1093-1101.



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