

Use Clinical Judgment to Augment CAP Guidelines

ARTICLES BY KATE JOHNSON
Montreal Bureau

MONTREAL — New guidelines for the management of community-acquired pneumonia provide an excellent framework for site-of-care decisions, but they must be augmented with a good dose of clinical judgment, according to Glenn Tillotson, Ph.D.

The consensus guidelines from the Infectious Diseases Society of America and the American Thoracic Society hinge on two severity scoring systems to aid in the decision about whether to hospitalize patients with community-acquired pneumonia (CAP) or treat them as outpatients (CID 2007; 44[suppl. 2]:S29).

However, although the well-established

Pneumonia Severity Index (PSI) and the CURB-65 (confusion, uremia, respiratory rate, blood pressure, age 65 years or older) scoring systems are excellent tools, “clinical judgment based on more subjective criteria should override the rules,” Dr. Tillotson said at an international conference on community-acquired pneumonia.

Disease severity scoring systems adequately classify most patients with CAP into either hospital or outpatient treatment, but such systems may be less reliable for young adults (aged 17-40 years) and the frail elderly, said Dr. Tillotson, who is executive director of scientific affairs at Replidyne Inc.

He outlined one study of young CAP patients (median age 20 years) in which previous pulmonary disease, initial vital signs, and lab values were not predictive of mortality or length of stay (Chest 2006;130[suppl.]:105S). Another

study found that in frail elderly patients with CAP, chronic comorbidities were not predictive of disease severity (Chest 2006;130[suppl.]:105S). “The factors we tend to lean on should not necessarily drive our decisions, especially in these populations,” he said.

Dr. Tillotson emphasized that although there may be a need for more specific scoring systems for CAP patients who are either

young or frail and elderly, the science of scoring systems must always bow to the art of clinical judgment for all CAP patients.

“It’s not always possible to articulate what marks a stay-at-home type patient versus someone who needs to go to hospital. There may be occasions when you should admit someone—not because they’re severely ill, but simply because they need

some TLC. One or 2 days in hospital could make all the difference,” he said.

He noted a study of almost 2,000 low-risk CAP patients in which 45% were treated as inpatients (J. Gen. Intern. Med. 2006;21:745-52). Among the hospitalized patients, about one-fifth had no identifiable risk factor according to the PSI. “An overnight stay in hospital can sometimes just get somebody over that hump. They’re feeling sick; they have chest pains, fever, and coughing. They’re not really sick enough to be admitted, but 24 hours in an observation ward can make a big difference,” he said.

Weighing against this idea are the known risks of hospitalization. “It’s often better to manage someone in the community because they’re less likely to acquire resistant pathogens, or they’re less likely to have thromboembolic events,” Dr. Tillotson said. ■

Although scoring systems may be needed for CAP patients who are young or elderly, the science of scoring systems must always bow to the art of clinical judgment.

Biologic Marker Can Help Tailor Antibiotic Use in CAP

MONTREAL — In community-acquired pneumonia, overuse of broad-spectrum antibiotics can be curbed with the help of biologic markers such as procalcitonin, according to Dr. Jean Chastre of the Hôpital de la Pitié-Salpêtrière, Paris.

Blood levels of procalcitonin (PCT) rise in patients with bacterial infections but remain fairly low in those with viral infections, and PCT levels decrease as the bacterial infection subsides. Measuring PCT levels thus aids decisions about whether to prescribe antibiotics, what type to prescribe, and for how long, he said at an international conference on community-acquired pneumonia (CAP).

“We use antibiotics for too long for too many patients, and in doing so are favoring the emergence of resistant strains,” Dr. Chastre explained in an interview at the meeting, which was sponsored by the International Society of Chemotherapy.

“The more antibiotics we use, the more resistance we are going to see,” Dr. Jean-Claude Pechère agreed in an interview. In his presentation, he outlined a 2004 study in which PCT-guided therapy for lower respiratory tract infections significantly reduced antibiotic use, compared with standard care (Lancet 2004;363:600-7). “With these biomarkers, we suddenly realized we could cut antibiotic consumption almost in half. In Europe, we are speaking of millions of patients,” said Dr. Pechère, a professor of medicine at the University of Geneva.

Although a PCT assay is approved in Europe, it is not widely available. It is even less available in North America, according to Dr. Thomas File, a professor of internal medicine and head of infectious diseases at Northeastern Ohio Universities, Rootstown.

“There are a few places where they have it available in the [emergency department], but in most places it takes several hours to get the result back—maybe even a day,” Dr. File said in an interview. “We need a lot more studies looking at its applicability at the point of service.”

Because initiation of antibiotic therapy is recommended within hours of a diagnosis

of bacterial CAP, a PCT assay may not be practical for guiding initial treatment decisions, he said. “I think it’s probably going to be more helpful in making decisions about duration of therapy, or changing therapy.”

For example, antibiotics can be stopped if the PCT results suggest that bacterial infection is unlikely, explained Dr. Chastre, who has received research funding and is a speaker for Brahms Diagnostics LLC, which makes a PCT assay. Or, therapy could be shortened if serial PCT measurements suggest a rapid response. “It’s probably possible, even in severe pulmonary infection, to shorten the duration of antibiotics to 5 or 7 days if the PCT is decreasing very rapidly,” Dr. Chastre said.

European guidelines recommend that empiric therapy for bacterial CAP should provide coverage against the most common pathogen (*Streptococcus pneumoniae*) but not atypical pathogens, whereas North American experts favor a wider spectrum of coverage that includes the atypicals. PCT-guided therapy could allow European physicians to continue with less complete initial coverage by identifying the nonresponders who need expanded therapy, Dr. Pechère said.

In the future, it may even be possible to use PCT levels to distinguish typical from atypical CAP pathogens, he added, citing one study that noted lower levels in hospitalized CAP patients infected with typical—compared with atypical—bacteria (Infection 2000;28:68-73). However, a more recent study concluded that PCT levels were not predictive of type of pathogen (Clin. Microbiol. Infect. 2007;13:153-61).

Dr. Chastre emphasized that PCT levels should always be considered in conjunction with other clinical parameters. “Some people, even with very severe disease, can have low levels,” he said, citing his own study showing low PCT levels in some patients with ventilator-associated pneumonia (Am. J. Respir. Crit. Care Med. 2005;171:48-53).

The reverse can also be true, with high levels of PCT seen in nonseptic conditions such as trauma, cardiogenic shock, and heat stroke, among others, he said. ■

Appropriate Antibiotic Important in COPD With Pneumonia

MONTREAL — Exacerbations of chronic obstructive pulmonary disease may need more aggressive therapy when they co-occur with pneumonia, according to Dr. Charles Chan, professor of medicine at the University of Toronto and head of respiratory at University Health Network and Mount Sinai Hospital in Toronto.

Chronic obstructive pulmonary disease (COPD) can predispose patients to pneumonia, but differentiating between the two conditions can be difficult, he said at an international conference on community-acquired pneumonia (CAP).

“COPD exacerbations alone are generally recognized, but COPD exacerbations with pneu-

monia may be underappreciated” and therefore undertreated, Dr. Chan said in an interview at the meeting, which was sponsored by the International Society of Chemotherapy.

Guidelines for treating mild COPD exacerbations recommend treatment with macrolides, but only in the presence of purulent sputum (Can. Respir. J. 2004;11[suppl. B]:3B-59B), he said, adding, “Primary care physicians tend to overprescribe antibiotics for COPD exacerbations.”

In contrast, guidelines for CAP (Clin. Infect. Dis. 2007;44:S27-72) in older patients with comorbidities such as COPD recommend treatment with fluoroquinolones. But recognizing CAP with COPD

exacerbation can be rather tricky.

“You can see the differences on x-ray, but sometimes even this can be subtle, and certainly if you don’t do an x-ray—which is not an uncommon practice at the primary care level—it is hard to tell the difference,” he said in the interview. “Without the x-ray, you may just label someone as having a COPD exacerbation when in actual fact they may already have pneumonia.”

This is not a problem in the older, more vulnerable COPD population, whose exacerbations should be treated with fluoroquinolones—the same antibiotics recommended for CAP, he noted. “For this group, fluoroquinolones are always a safe choice. But we

should not be using these drugs for the milder, simpler COPD patients. Those are the ones who

can still use macrolides, and we are trying to sway them away from the fluoroquinolones.” ■



Most COPD exacerbations show hyperinflated lungs (left); concurrent pneumonia shows subtle air space and nodular infiltrates (right).

PHOTOS COURTESY DR. CHARLES CHAN