Gemifloxacin for Inpatient CAP Found Cost Effective

BY DIANA MAHONEY
New England Bureau

MONTREAL — Monotherapy with oral gemifloxacin for hospitalized patients with community-acquired pneumonia is a more cost-effective option than treatment with intravenous ceftriaxone followed by oral cefuroxime with or without a macrolide, a study has shown.

Gemifloxacin (Factive) is a synthetic fluoroquinolone antimicrobial agent with potent activity against most gram-negative and gram-positive organisms, such as *Streptococcus pneumoniae* (including multidrug-resistant *S. pneumoniae*), *Haemophilus influenzae*, and *Moraxella catarrhalis*. It is the most active of the pneumococcal quinolones.

A retrospective cost-benefit analysis of the two treatment regimens, which were compared in a randomized, open-label, multicenter investigation, showed that the mean cost per expected success—defined as an infection successfully treated—was $6,316 for the gemifloxacin therapy and $7,310 for the ceftriaxone regimen, Sujata M. Bhavnani, Pharm.D., reported in a poster presentation at an international conference on community-acquired pneumonia (CAP).

A total of 341 adults hospitalized with a clinical and radiologic diagnosis of CAP were enrolled in the multicenter study led by Hartmut Lode, M.D., of the Free University of Berlin. Of these patients, 169 were randomized to 320 mg oral gemifloxacin once daily for 7-14 days, while 172 received 2 g intravenous ceftriaxone for 1-7 days, followed by 500 mg oral cefuroxime twice daily for 1-13 days for a total of no more than 14 days. About 39% of the ceftriaxone patients received concomitant macrolide therapy.

The two regimens had similar efficacy, with response rates of 92.2% and 93.4%, respectively, for gemifloxacin and the ceftriaxone regimen. Both treatments were generally well tolerated, with similar types and frequencies of adverse events (Clin. Ther. 2002;24:1915-36).

To evaluate cost efficacy, Dr. Bhavnani, of the Institute for Clinical Pharmacodynamics at the Ordway Research Institute in Albany, N.Y., and colleagues analyzed the costs associated with antibiotic acquisition, antibiotic preparation, dispensing, and administration, as well as the treatment of antibiotic-related adverse events and clinical failures and hospital charges for both therapies.

Median length of stay was 8.0 days for the gemifloxacin group and 9.0 days for the ceftriaxone patients. For gemifloxacin and ceftriaxone, respectively, the mean costs of antibiotic acquisition were $201 and $501, while the combined costs for antibiotic preparation, dispensing, and administration and treatment of adverse events and clinical failures were $223 and $589. The mean hospital per diem costs were $5,823 and $6,828, respectively, Dr. Bhavnani said.

The findings confirm an important role for fluoroquinolones in therapy for CAP, "which could translate into real clinical and economic benefits," Dr. Bhavnani noted at the conference, which was sponsored by the International Society of Chemotherapy. ■

Shorter Treatment Duration May Be Better for Pneumonia

BY DIANA MAHONEY
New England Bureau

MONTREAL — Short-course therapy with oral gemifloxacin is effective for the treatment of mild to moderate community-acquired pneumonia, including that caused by multidrug resistant *Streptococcus pneumoniae*, a study has shown.

The findings add to a growing body of evidence suggesting that the optimal duration of antimicrobial therapy may be shorter than current practice prescribes, Thomas M. File Jr., M.D., reported in a poster presentation at an international conference on community-acquired pneumonia (CAP).

Proponents of short-course antimicrobial therapy for community-acquired pneumonia believe that shorter duration therapy might enhance compliance, reduce development of antimicrobial resistance, decrease the incidence and shorten the duration of adverse drug effects, cut treatment costs, and improve patient satisfaction with therapy, he said.

To compare the efficacy of 5-day gemifloxacin treatment with the standard 7-day course, Dr. File, professor of internal medicine at Northeastern Ohio Universities, Rootstown, and his colleagues enrolled 510 patients with mild to moderate CAP in a multicenter, double-blind study. Of the 468 patients who completed the entire treatment protocol, 242 were randomized to receive 320 mg of oral gemifloxacin (Factive) for 5 days, while 226 were given the same dose of the drug for the standard 7 days.

Measures of clinical response at the end of treatment showed a 96% response rate for both the 5-day and 7-day groups. At follow-up (2-3 weeks after treatment), the clinical response rate was 95% for the 5-day group and 92% for the 7-day group, Dr. File reported.

The bacteriological response rates were 94% and 96% for the 5-day and 7-day groups, respectively, at the end of treatment, and were 91% for both groups at follow-up. The radiological response rates, measured only at follow-up, were 98% for the 5-day patients and 95% for those taking the drug for 7 days. None of the differences was statistically significant, he said.

The 5-day dose of gemifloxacin eradicated *S. pneumoniae*—including five multidrug-resistant strains—in all 26 individuals in which the pathogen was identified. In the 7-day patients, the drug eradicated 87% of the *S. pneumoniae*, including four of six multidrug-resistant strains.

In terms of safety, the drug was well tolerated in both groups. "Withdrawal due to adverse events was only 1.2% for the 5-day group and 2.0% for the 7-day group," Dr. File noted. The most common adverse event reported was a laboratory finding of elevated liver enzymes, but a subsequent analysis showed no association between the increase in these laboratory findings and treatment with gemifloxacin, nor did patients display hepatotoxic effects. The rates of drug-related rash were also low in both treatment groups.

Gemifloxacin is the most potent agent among the fluoroquinolones for the treatment of respiratory tract infections, "and more and more we are seeing the benefits of using a short course of the most potent antimicrobial drug in a class for treating infections such as community-acquired pneumonia," he said. ■

Moxifloxacin Effective, Safe for Aspiration-Related Lung Infections

BY DIANA MAHONEY
New England Bureau

MONTREAL — The potent respiratory fluoroquinolone moxifloxacin is as safe and effective as combination ampicillin/sulbactam therapy for the treatment of aspiration-associated pulmonary infections, Sebastian Ott, M.D., reported in a poster presentation at an international conference on community-acquired pneumonia.

To compare the efficacy, safety, and tolerability of moxifloxacin (Avelox) with that of ampicillin/sulbactam (Unasyn) for treating aspiration pneumonia and primary lung abscess, Dr. Ott of the Helios Chest Hospital Heckeshorn in Berlin and his colleagues enrolled 139 patients with either condition in a multicenter, open-label trial.

Nearly 65% of the patients were diagnosed solely with aspiration pneumonia, and definite or presumptive pathogens were isolated in 45 subjects, he said.

Of the 139 patients, 96 were treated according to protocol: 48 were randomized to 400 mg IV moxifloxacin once daily followed by oral moxifloxacin for 7-14 days or until complete resolution of radiologic and clinical signs of infection; 48 received 1.5-3.0 g IV ampicillin/sulbactam twice daily followed by oral administration for the same duration.

At the end of treatment, the overall clinical response rate for both groups was 67%. In the moxifloxacin group, 59% of patients with aspiration pneumonia and 80% of those with primary lung abscess responded to treatment. In the ampicillin/sulbactam group, 64% of the aspiration pneumonia patients and 82% of the primary lung abscess patients responded to treatment.

Both regimens were well tolerated to a similar degree, "even after long-term administration," Dr. Ott said. "The benefit of moxifloxacin is that its [once-daily] dosing is more convenient."

The findings provide clinicians with an important therapeutic option to add to their toolbox for treating aspiration-related pulmonary infections.

"There is limited information on optimal antibacterial therapeutic regimens for aspiration pneumonia and lung abscess patients. This study, which provides the biggest number of these patients published so far, indicates that moxifloxacin's activity against anaerobic bacteria is important and useful in treating these severe conditions," he said. ■

Consider Ethnicity When Screening for Tuberculosis

CHICAGO — Consider additional tuberculosis screening strategies in patients of certain ethnic backgrounds prior to initiating biologic therapies, Stephen E. Wolverton, M.D., advised at the American Academy of Dermatology's Academy 2005 meeting.

High-risk individuals should get a chest x-ray at baseline, and a consultation or chemoprophylaxis with isoniazid for 9 months should be considered for those patients at highest risk, he said.

The ethnic background of a patient can make an enormous difference. The rate of tuberculosis is almost 17 times greater among Asian and Pacific Islanders than in non-Hispanic, U.S. whites, said Dr. Wolverton of Indiana University, Indianapolis.

Per 100,000 patients, the TB rate is 2.2 among non-Hispanic whites, compared with 35.3 among Asian Pacific Islanders, 16.8 among blacks, and 12.4 among Hispanics, according to data from the Centers for Disease Control and Prevention.

Reports of tuberculosis in patients on biologic therapies prompted the Food and Drug Administration to recommend a baseline tuberculin purified protein derivative (PPD) skin test to evaluate the risk of latent TB infection, Dr. Wolverton said. It is important to be aware that rheumatoid arthritis can decrease the activity of the PPD, he added.

There is a trend toward increased risk of TB associated with biologics, but the database on psoriasis patients is too small to make meaningful conclusions, Dr. Wolverton said.

—Patrice Wendling