Are Fluoroquinolones Overprescribed for CAP?

BY DEEANNA FRANKLIN
Senior Writer

WASHINGTON — Inconsistent and unclear guidelines may be contributing to overprescribing of fluoroquinolones to treat community-acquired pneumonia, said Conan MacDougall, Pharm.D., and colleagues in a poster presentation at the Interscience Conference on Antimicrobial Agents and Chemotherapy.

Treatment of community-acquired pneumonia (CAP) is one of the primary indications for fluoroquinolones for both inpatients and outpatients, according to guidelines issued by the Infectious Diseases Society of America (IDSA).

"[Fluoroquinolone] resistance, while generally low, appears to be increasing in *Streptococcus pneumoniae* as well as among gram-negative organisms. Thus, overuse and inappropriate use may compromise the future efficacy of this class of antibiotics," reported the research team led by Dr. MacDougall, formerly with the department of clinical pharmacy at the University of California, San Francisco, but now is an infectious diseases fellow at Virginia Commonwealth University, Richmond.

The researchers did a retrospective, observational database review of pharmacy claims from four managed care organizations in Colorado from March 2000 to March 2003. A total of 4,538 patients were studied; 35% were aged 18-44 years, 35% were aged 45-64 years, and 30% were aged 65 or older. More than half of the patients (54%) were women. All had a primary diagnosis of CAP with no significant comorbidity. Seventy-two percent of patients were treated by a family physician and 26% were treated by an internist. The remaining 2% were seen by other specialists.

Floroquinolone use in this population rose 62% from 2000 to 2002, while macrolide use dropped 25% in the same time period.

Internists tended to prescribe the drugs more often than did family physicians, and patients aged older than 65 years received fluoroquinolones more often than did younger patients.

The rise in fluoroquinolone use among older patients may be appropriate since these patients are at higher risk of having drug-resistant *S. pneumoniae*; however, increased prescribing of fluoroquinolones for younger patients with no cormorbidities who are a low risk of treatment failure is cause for concern.

In 2001, CAP treatment guidelines were issued by the American Thoracic Society, the Centers for Disease Control and Prevention, and the Canadian Thoracic and Infectious Diseases Societies, in addition to IDSA. All four groups recommended macrolides and doxycycline as first-line therapy for CAP, but differed on indications for fluoroquinolone use. The CDC included beta-lactam antibiotics among first-line choices, while the IDSA included fluoroquinolones.

The American Thoracic Society and the Canadian Thoracic and Infectious Diseases Societies recommend fluoroquinolones for all inpatients, with or without the addition of a beta-lactam.

In its 2003 update to "Guidelines for CAP in Adults," the IDSA recommends using a fluoroquinolone alone as first-line therapy only for adult outpatients who have had recent antibiotic therapy, all adult inpatients, and nursing home residents. For previously healthy adult outpatients, the guidelines now recommend first trying a macrolide or doxycycline.

The conference was sponsored by the American Society for Microbiology. ■

Short Antibiotic Course Works for Most Mild to Moderate Pneumonia

BY MITCHEL L. ZOLER
Philadelphia Bureau

WASHINGTON — Three days of antibiotics were as effective as 8 days for curing or substantially improving patients with mild to moderate, community-acquired pneumonia in a controlled study with 119 patients done in the Netherlands.

Patients were randomized to ongoing antibiotic treatment or placebo if they showed substantial improvement following 3 days of IV amoxicillin, Rachida El Moussaoui, M.D., said at the annual Interscience Conference on Antimicrobial Agents and Chemotherapy.

"The results apply to patients with mild to moderately severe community-acquired pneumonia, which is about 60%-80% of patients who are hospitalized for community-acquired pneumonia," said Dr. El Moussaoui, an infectious diseases physician at the University of Amsterdam. In addition, the results apply only to patients who substantially improve after their first 3 days of IV amoxicillin. In the study, about 75% of treated patients met this criterion.

The study was done at nine hospitals in the Netherlands during 2000-2003, and enrolled patients aged 18 years or older with clinical signs of pneumonia, radiologic evidence of a new lung infiltrate, and a pneumonia severity score of no more than 110. All patients began intravenous therapy with amoxicillin and were reevaluated after 3 days. Patients were then randomized if their temperature was lower than 38 °C and if their scores for several symptoms, including dyspnea, cough, and coughing up sputum, had improved by 2 or more points. They were then treated with either oral amoxicillin or placebo for an additional 5 days.

The study's primary end point was clinical success and pneumonia severity score at 10 days after the start of treatment. Based on these criteria, 50 of the 56 patients (89%) who received 3 days of active treatment were cured or significantly improved, compared with 56 of 63 (89%) patients in the group receiving 8 days of treatment, Dr. El Moussaoui reported at the conference, sponsored by the American Society for Microbiology.

The two groups also showed very similar rates of bacteriologic cure and radiologic cure. The study's secondary end point was clinical success at 28 days after the start of treatment, and was achieved by 84% of patients who had 3 days of treatment and by 78% who received 8 days of treatment.

The median hospital length of stay was 6 days in the 3-day group and 7 days in the 8-day group.

If a strategy of 3 days of antibiotic treatment were applied to similar pneumonia patients in routine practice, it could lead to a drop in antibiotic use and might help contain antibiotic resistance, Dr. El Moussaoui said. ■

Antibiotic Therapy: 3 Days vs. 8 Days

Measure	3 days of IV amoxicillin (n = 56)	3 days of IV amoxicillin followed by 5 days of oral amoxicillin (n = 63)
Patients cured or improved after 10 days of therapy	89%	89%
Patients cured or improved after 28 days of therapy	84%	78%
Median length of hospital stay	6 days	7 days
Total incidence of adverse events	11%	21%

Source: Dr. El Moussaoui

KEVIN FOLEY, RESEARCH/FORHAD S. HOSSAIN, DESIGN

Quinolones Compare in Elderly With Pneumonia

BY DOUG BRUNK
San Diego Bureau

SEATTLE — Elderly patients with community-acquired pneumonia who took moxifloxacin were more likely to have symptom relief by day 3-5 of therapy than were those who took levofloxacin, results from a prospective trial have found.

Investigators observed trends that favored moxifloxacin (Avelox) over levofloxacin (Levaquin) in severely ill patients and those aged 75 years and older, but all other efficacy and safety comparisons between the two agents were similar, Michael Niederman, M.D., said at the annual meeting of the American College of Chest Physicians.

"The safety and efficacy of both of these drugs was demonstrated and shown to be equivalent," he said in a later interview.

Dr. Niederman and his associates studied 281 patients aged 65 years and older who were hospitalized with community-acquired pneumonia and required initial IV therapy. Most had multiple comorbidities, especially cardiac disease (74%), chronic obstructive pulmonary disease (63%), and diabetes (29%). Also, 18% had severe pneumonia as defined by American Thoracic Society criteria. Slightly more than half (51%) were male, and their mean age was 78 years, said Dr. Niederman of Winthrop University Hospital, Mineola, N.Y.

At baseline, all patients had a 12-lead electrocardiogram and a repeat ECG at 72 hours. In the interim, they had a 72-hour period of Holter monitoring.

Of the total group, 141 patients were randomized to moxifloxacin 400 mg/day, and 140 received levofloxacin 500 mg/day. Nearly all patients (98%) in the moxifloxacin group had symptom relief by day 3-5 of therapy, compared with 90% of patients in the levofloxacin group.

Overall cure rates were similar between the moxifloxacin group and the levofloxacin group (93% vs. 88%). The cure rates among patients with mild to moderate pneumonia at baseline were also similar (93% vs. 89%).

The cure rates among patients with severe pneumonia were 95% in the moxifloxacin group, compared with 85% in the levofloxacin group—a difference that trended toward statistical significance. Cure rates among patients aged 75 years and older were higher in the moxifloxacin group, compared with those in the levofloxacin group (95% vs. 90%), but the difference was not statistically significant.

Cardiac events considered by the investigators as potentially drug-related were reported in 1% of patients in the moxifloxacin group, compared with 4% of patients in the levofloxacin group. The differences were not statistically significant.

The study was sponsored by Bayer Pharmaceuticals Corp., which manufactures moxifloxacin. ■