Editorial Comment

Community-acquired pneumonia, bronchitis, and infections of the sinuses, urinary tract, and skin structures are frequently treated with broad-spectrum antibiotics. However, many patients with pneumonia, bronchitis, and sinusitis recover with no antibiotic treatment, and most patients with these infections respond quite well regardless of which antibiotic is used. This is true even when the organisms found to be associated with these infections are shown to have in vitro "resistance" to the antibiotic used. This can be explained by the facts that the majority of cases of pneumonia and bronchitis are not bacterial in origin and that antibiotic concentrations in urine can be many orders of magnitude greater than the serum concentrations used to define "resistance." Despite this, broad-spectrum antibiotics often are used empirically to "cover" infections caused by multiply resistant organisms occasionally cultured from the community or hospital environment. Many clinicians justify such empiric treatment with the observation that untreated or inadequately treated infections can be lethal, an argument used effectively in marketing many antibiotics. Yet the correlation between in vitro resistance and clinical cure rates is poor. Widespread use of these antibiotics can lead to a greater incidence of the very multidrug resistance that created the fear of therapeutic failure in the first place, lessening the usefulness of the antibiotics.

Sparfloxacin, the subject of the review by Dr. Dowzicky et al, is one of the most recently developed broad-spectrum quinolone antibiotics. It has promising pharmacologic and pharmacokinetic properties, despite a relatively high incidence of phototoxicity. To date, the development of drug resistance has been uncommon with sparfloxacin, but this is merely a matter of time and exposure. In addition, much remains to be learned about the use and dosing of this agent in special populations (eg, children). Only after widespread clinical use will the drug's full spectrum of activity, ability to generate resistance, and toxicity become apparent. No matter how promising sparfloxacin may appear, until these data are available, its use should be restricted to clinical situations in which older, better studied, or less expensive alternatives are unlikely to produce comparable effects or in which the risks of less effective initial therapy preclude use of the alternatives.

Philip D. Walson, MD
Editor-in-Chief