with a negative skin test result, differs from formal desensitization, which is recommended for patients with a positive skin test result (see figure 1 in [1]). Clarification of these points would greatly assist readers in applying the lessons contained in this timely review.

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References

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Reply

Sir—Johnson [1] asks practical questions about our recommendations for treatment of patients who have possible antibiotic allergy [2]. The first question relates to whether there is need to use caution at all in administering modern cephalosporins to patients with penicillin allergy, given the low rate of cross-reactivity. It is not clear how low the cross-reactivity rate is, and the rate of cross-reactivity resulting in serious reactions is probably <0.1% [3]. Nonetheless, 4 of 12 patients who had fatal anaphylaxis associated with use of antibiotics in the United Kingdom during 1992–1997 were patients with allergy to a penicillin who were given cephalosporins [4]. Therefore, it seems that the incidence of fatal anaphylaxis associated with cephalosporin use is higher among patients with penicillin allergy than it is in the general population. The consensus from expert bodies is that some caution is still advisable [5].

A positive penicillin skin test result for a patient with a history of penicillin allergy does not appear to be predictive of anaphylaxis associated with cephalosporin use [3]. However, a positive penicillin skin test result and a history of cephalosporin allergy increase the risk of anaphylaxis associated with the use of cephalosporins and penicillins.

The side chains of cefazolin are not similar to those of penicillin, and we are not aware of any case reports of anaphylaxis due to cefazolin use [6]. However, the concern is that reactions to the β-lactam ring, rather than to the side chain, may be more common with use of first-generation cephalosporins than they are with use of other cephalosporins.

We agree that performance of penicillin skin tests in an acute care setting is problematic, but it has been successfully done in some health care centers, and it may be cost neutral if the result is use of less-expensive antibiotics [7]. Some health care centers use “bench” benzylpenicillin as a close approximation of a predetermined minor determinant mix. It was beyond the scope of our article to provide details on contraindications to performance of a penicillin skin test, because the assumption was that trained personnel would perform the tests. Use of prednisone is not a contraindication to performance of a penicillin skin test. In the very common scenario in which the nature of the suspected allergic reaction is not clear, it is sometimes possible to unearth the fact that the patient has been labeled as being allergic simply because a relative is allergic or because the patient had developed a maculopapular rash or had vomiting only.

Desensitization is a therapeutic modality that is recommended when a patient has likely had an IgE-mediated reaction to a drug in the past but must receive that drug. It involves rapid administration of escalating doses of the drug in a hospital setting until a full dose has been administered, which is thought to result in slow degranulation of mast cells such that minimal or no symptoms occur. Oral challenge is a diagnostic modality that is recommended when the suspicion that a patient has had an IgE-mediated reaction to a drug is low. One method of testing a patient’s sensitivity would be to give a low oral dose in a supervised setting, followed by a full oral dose later, if the patient remains asymptomatic.

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References

Pulmonary Tuberculosis Presenting as Community-Acquired Pneumonia

Sir—Mycobacterium tuberculosis (MTB) infection remains a major public health problem in Southeast Asia, sub-Saharan Africa, and eastern Europe. In the United States, the resurgence of tuberculosis (TB)
in the early 1980s has been attributed to several factors: the epidemic of HIV infection, immigration of previously exposed people, and an increased rate of drug resistance. New York City has the second highest rate of TB in the country. In recent years, there has been a decrease in the incidence of TB nationwide. In the year 2000, New York City had the lowest case rates of TB ever reported in the city, with a total of 1332 cases [1]. Despite the downward trend in the incidence of TB, the rate in New York City is still 2.9-fold higher than the national rate [1].

Delays in the diagnosis and treatment of TB in the postsanitarium era have been attributed to less expertise among physicians, a low index of suspicion, and the use of fluoroquinolones. Fluoroquinolones have been shown to have both in vitro and in vivo activity against MTB infection. Dooley et al. [2] investigated the effect of empirical fluoroquinolone therapy on possible delays in the initiation of anti-TB therapy in a cohort of patients who presented with community-acquired pneumonia (CAP) to Johns Hopkins Hospital (Baltimore, Maryland). The study included 33 culture-positive patients with pulmonary TB who presented during a 3.5-year period. The investigators found that the median time between presentation to the hospital and the initiation of anti-TB therapy was 16 days longer for patients who received fluoroquinolones than for those who did not (median time, 21 vs. 5 days). There were no differences between patients who received fluoroquinolones and those who did not with regard to symptoms, except that patients with shortness of breath were more likely to receive fluoroquinolones. The investigators concluded that initial empirical fluoroquinolone therapy was associated with a delay in the initiation of anti-TB treatment. A low index of suspicion of TB seems to be the main reason for delays in ordering Mycobacterium cultures and ultimately resulted in delays in the initiation of treatment. The investigators argue that patients who are receiving fluoroquinolones may have felt better initially (83% of such patients reported feeling better)—therefore leading to delays in the ordering of Mycobacterium cultures—but these rates were not compared with the rate of patients in the nonfluoroquinolone treatment arm who had improvement of symptoms.

We studied patients with pulmonary TB at Flushing Hospital Medical Center (a 250-bed community hospital in Flushing, New York) during January 1999 through June 2002. We identified a total of 28 patients who presented with CAP. Of these patients, 23 were Asian, and the rest were Hispanic (3 patients) or white (2 patients). More than 50% of the Asian patients were Korean. The characteristics of the study participants are shown in table 1. Although the numbers are too small for a meaningful statistical analysis, there was no difference between the groups with regard to the median time to the ordering of sputum studies for detection of MTB. Until then, it is prudent to avoid use of fluoroquinolones as a first-line agent for patients with CAP for whom the index of suspicion for TB is high.

In conclusion, the use of fluoroquinolones may delay suspicion of TB in patients who present with CAP by suppressing their symptoms [2]. Further studies are needed to determine whether the empirical use of fluoroquinolones affects the sensitivity of sputum studies for detection of MTB. Until then, it is prudent to avoid use of fluoroquinolones as a first-line agent for patients with CAP for whom the index of suspicion for TB is high.

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Table 1. Clinical and demographic characteristics of subjects in a study of fluoroquinolone use and time to initiation of antituberculosis (anti-TB) therapy.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Nonfluoroquinolone therapy (n = 15)</th>
<th>Fluoroquinolone therapy (n = 7)</th>
<th>No antibiotic received (n = 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, years</td>
<td>60</td>
<td>53</td>
<td>31</td>
</tr>
<tr>
<td>Median time to ordering of culture for AFB, days</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Median time to initiation of anti-TB therapy, days</td>
<td>9</td>
<td>4</td>
<td>4.5</td>
</tr>
</tbody>
</table>

NOTE. AFB, acid-fast bacilli.

References

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