effective antimicrobial treatment against the causative pathogen is defined as adequate. In addition, they considered the term “appropriate treatment” to be different from the term “adequate treatment,” because the first implies narrowing of the spectrum of antimicrobial coverage on the basis of culture results, administrating appropriate dosages at appropriate dosing intervals, and respecting additional principles regarding the prudent use of antibiotics [1].

The definitions above differ from those adopted by the American Thoracic Society and the Infectious Diseases Society of America in their consensus guidelines on the management of hospital-acquired, ventilator-associated pneumonia and health-care associated pneumonia [2]. According to them, appropriate antimicrobial treatment is defined as the use of agents with in vitro activity against the etiologic pathogens, whereas adequate treatment is different, requiring not only the administration of the correct (appropriate) antibiotic but also the optimal dose and the correct route of administration to ensure that the antibiotic penetrates to the site of infection.

The confusion regarding these definitions appears to be further enhanced by the fact that Kollef et al. [3], in their landmark study of the deleterious impact of inadequate antimicrobial treatment on mortality among critically ill patients, defined adequate treatment as the administration of an antimicrobial agent for which the microorganism responsible for the infection had in vitro susceptibility (without any further mention regarding dosage or route of administration). Obviously, the definition above, albeit in line with that of Harbath et al. [1], substantially differs from the definition used by the American Thoracic Society and the Infectious Disease Society of America [2].

Several lines of evidence suggest that the selection of a microbiologically effective treatment for a patient without considering other issues may be not enough. Indeed, several studies (table 1) examining the clinical effectiveness of microbiologically active treatment for infections with gram-positive organisms revealed that vancomycin, an antibiotic with in vitro activity against methicillin-susceptible Staphylococcus aureus, is less effective than β-lactams for the treatment of patients with various staphylococcal infections (a fact widely known among infectious diseases specialists) [4–10].

Thus, there may be support that the terms “adequate” and “appropriate,” regarding the selection of antimicrobial treatment, have different meanings and should be uniformly defined (in addition to several other terms in the field of infectious diseases [11]) to avoid any misunderstanding by clinicians who make the relevant treatment decisions. However, we acknowledge that both terms (namely “appropriate” and “adequate”) are ordinary English words, and it may be difficult to prescribe or proscribe their use. This is also the case for terms such as “superior” or “optimal” treatment.

In conclusion, it would be useful if authors define the use of the terms “appropriate” and “adequate” in their articles. Regardless of the term used, clinicians should not only rely on the in vitro susceptibility test results but should also strive to incorporate several aspects derived from the principles of the judicious use of antimicrobial agents in the decision-making process, as was supported by Harbath et al. [1].

Acknowledgments

Potential conflicts of interest. All authors: no conflicts.

Ilias I. Siempos,1 Eleni Ioannidou,1 and Matthew E. Falagas2,3

1Alfa Institute of Biomedical Sciences and 2Department of Medicine, Henry Dunnant Hospital, Athens, Greece; and 3Department of Medicine, Tufts University School of Medicine, Boston, Massachusetts

References


Voluntary or Universal HIV Testing in Italy?

To the Editor—Keruly and Moore [1], in their article, and Goicoechea and Smith [2], in their editorial commentary, outline the difficulties in early detection of human immunodeficiency virus (HIV) infection...
in the United States and favor the proposal of universal HIV testing in health care settings [3]. In Italy (and in other European countries), anonymous, voluntary HIV testing has long been offered free of charge in infectious diseases units in an effort to attract at-risk individuals and to diagnose the infection early. To determine whether voluntary testing is indeed sought by at-risk individuals, we reviewed and compared data on the use and results of voluntary HIV testing from January 2002 through September 2007 in 2 infectious diseases units, one (G.B. Rossi University Hospital; Verona, Italy) located in northeastern Italy, in the Veneto region, and the other (Annunziata Hospital; Cosenza, Italy) located in southern Italy, in the Calabria region.

A total of 2223 tests were performed at the infectious diseases unit in Verona, and 383 tests were performed at the unit in Cosenza (table 1). Positive results were obtained in only 1.8% of tests performed in Verona and 0.26% of tests performed in Cosenza. Importantly, 8 of the 40 tests with positive results in Verona and the only test with positive results in Cosenza were performed for sexual partners of HIV-infected patients. During the same period, 59 cases of AIDS were diagnosed at the infectious diseases unit in Verona and 13 cases of AIDS were diagnosed at the infectious diseases unit in Cosenza in people who had never undergone HIV testing. Our results prompt a number of considerations. First, many more people undergo voluntary HIV testing in Verona (where the infectious diseases unit serves a population of 826,000 and where anonymous HIV testing is also offered by another dedicated HIV testing center) than in Cosenza (where the infectious diseases unit is the only HIV testing center and serves a population of 734,000). This finding may partly be the result of a greater fear of AIDS in Verona, because a far higher number of AIDS cases have been observed in the Verona area than in the Cosenza area since the beginning of the epidemic (613 cases vs. 126 cases) [4]. Second, because the number of positive results was low in Verona and was virtually zero in Cosenza, it is evident that few individuals who are truly at high risk of acquiring HIV infection seek testing. Third, the above data contrast with the still considerable number of individuals presenting at late stages of infection without previous knowledge of their HIV infection status.

In conclusion, an analysis of the use and results of voluntary HIV testing in 2 Italian infectious diseases units showed that few people who seek HIV testing have acquired the infection—whereas many individuals discover their HIV infection status only after manifesting symptoms of AIDS—and that voluntary HIV testing is underused (particularly in the infectious diseases unit in southern Italy). More targeted information campaigns need to be planned and performed in Italy (especially in the less developed southern regions) if more cases of HIV infection are to be identified at early stages through voluntary testing. Alternatively, universal HIV testing in health care settings should also be considered in Italy.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sex</td>
<td>348</td>
<td>41</td>
<td>199</td>
<td>40</td>
<td>257</td>
<td>53</td>
<td>254</td>
<td>37</td>
<td>235</td>
<td>30</td>
<td>183</td>
<td>30</td>
</tr>
<tr>
<td>Female sex</td>
<td>71</td>
<td>15</td>
<td>141</td>
<td>14</td>
<td>160</td>
<td>17</td>
<td>153</td>
<td>26</td>
<td>121</td>
<td>42</td>
<td>101</td>
<td>38</td>
</tr>
<tr>
<td>Positive results, no. (%)</td>
<td>5 (1.2)</td>
<td>0</td>
<td>3 (0.9)</td>
<td>1 (1.9)</td>
<td>8 (1.9)</td>
<td>0</td>
<td>9 (2.2)</td>
<td>0</td>
<td>7 (1.9)</td>
<td>0</td>
<td>8 (2.8)</td>
<td>0</td>
</tr>
</tbody>
</table>

**NOTE.** Data are for the Section of Infectious Diseases, Department of Pathology, G.B. Rossi University Hospital, Verona, Italy (Verona) and the Infectious Diseases Unit, Annunziata Hospital, Cosenza, Italy (Cosenza).

*January through September.

### Acknowledgments

**Potential conflicts of interest.** All authors: no conflicts.

Sandro Vento, Roberto Pellegrino, Giovanni Apuzzo, Emanuela Lattuada, and Alfredo Vallone

1Infectious Diseases Unit, Annunziata Hospital, Cosenza, and 2Section of Infectious Diseases, Department of Pathology, G.B. Rossi University Hospital, Verona, Italy

### References


**Liposomal Amphotericin B as a Cause of Pseudohyperphosphatemia**

To the Editor—We report an interference in the Synchron LX-20 phosphorus assay (Beckman Coulter) that is caused by liposomal amphotericin B. A patient infected with HIV was admitted to the National Institutes of Health Clinical Center...