Correspondence

Benefit Associated with Appropriate Antibiotic Treatment

To the Editor—McGregor et al. [1] addressed an important question. An unbiased estimate of the benefit afforded by appropriate antibiotic treatment is necessary for a cost-effectiveness (or benefit) analysis of antibiotic treatment (mainly for empirical treatment [2]). Balancing the costs against the benefit of antibiotics is crucial in this era of antibiotic resistance [2, 3]. Because a randomized, controlled trial to address this question is unethical, good observational studies should be used to find an answer. However, the article by McGregor et al. [1] has several drawbacks that make it less than useful. First, the authors did not identify many studies that fulfilled their inclusion criteria [4–8]. This was probably because McGregor et al. [1] used only Medical Subject Headings terms for their search, which are not sufficiently sensitive. For example, the use of the free-text term “bloodstream infections” would have captured additional references.

Second, in contradiction with their inclusion criteria, McGregor et al. [1] included at least 1 study that addressed patients with sepsis and microbiologically documented infections but not necessarily with bacteremia [9]. In our opinion, the inclusion criteria should have been sepsis and microbiologically documented infections and that tested the influence of methodological dimensions and patient characteristics on the effect estimate should be performed.

In addition, there may have been a few factual mistakes in the article. For example, we did perform a multivariable analysis in our study [11].

In summary, a comprehensive systematic review (and probably meta-analysis) of all observational studies (and not publications) that focused on the association between inappropriate antibiotic treatment and mortality among patients with sepsis and microbiologically documented infections and that tested the influence of methodological dimensions and patient characteristics on the effect estimate should be performed.

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