Correspondence

Tigecycline and Overall Mortality

To the Editor—Two systematic reviews and meta-analyses on the efficacy of tigecycline were performed and published in parallel [1–2]. They have reached similar conclusions, that overall mortality was increased in patients given tigecycline. This difference reached significance when all studies were included in our systematic review and meta-analysis [1]. In March 2012, Prasad et al [3] published a third meta-analysis, including the same studies, and reached (overall) similar conclusions. The main reason given in their publication for performing another meta-analysis was methodological problems in our analysis. They did not include new trials and did not reach new conclusions over our review. We would like to raise several concerns about this publication.

Prasad et al combined risk differences. Absolute measures of treatment effect are relevant for decision making. However, meta-analysis makes sense when combining relative measures (eg, risk ratios). Performing a meta-analysis of risk differences is equivalent to comparing the patients in one trial to patients in another trial (eg, a 5% difference in mortality has different meaning when the control event rate is 5% or 50%); combining skin and soft tissue infections and hospital-acquired pneumonia has little clinical meaning.

The points raised by Prasad et al regarding our review (“excluded unpublished but available data,” “incorrectly extracted,” “mistakenly assigned”) relate to the facts that in our systematic review the primary predefined outcome was 30-day mortality, outcomes were extracted for the largest patient population evaluated (all randomized, if available), and we used the data as available at the time our review was conducted. Correcting the mortality data in our analysis according to the recently published study [4] changes the relative risk from 1.29 to 1.32 and confidence intervals from 1.02–1.64 to 1.04–1.68; that is, the same results of significantly increased mortality with tigecycline.

As part of our systematic review, we contacted all corresponding authors, some of whom were Pfizer representatives, and received no additional data. It is surprising that Prasad et al did not ask us where the numbers we extracted came from in their attempt to resolve “discrepancies among previous analyses and both published and unpublished data sources.” It is also surprising that no acknowledgement is given to the “data sources” at Pfizer who could corroborate the data presented by Prasad et al.

In summary, we ask to respond to the minor points raised by Prasad et al as the reason for conducting their meta-analysis. We think that relative, dimensionless effects should be combined in meta-analysis and not absolute measures.

Note

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

References


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