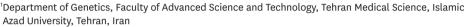


Correspondence



Comments on the Published Meta-Analysis of Clinical and Microbiologic Efficacy and Safety of Imipenem/ Cilastatin/Relebactam in Complicated Infections

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► See the article "Clinical and Microbiologic Efficacy and Safety of Imipenem/Cilastatin/Relebactam in Complicated Infections: A Meta-analysis" in volume 53 on page 271.



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Conflict of Interest

No conflicts of interest.

Dear Editor:

I read with great interest a recently published meta-analysis of Sahara et al. [1] entitled "Clinical and microbiologic efficacy and safety of imipenem/cilastatin/relebactam in complicated infections: a meta-analysis." According to the article, the systematic search was performed by related keywords in international databases; Cochrane Central Registry of Clinical Trials, Embase, and PubMed. After selection based on inclusion and exclusion criteria, four randomized controlled trials articles were included in this meta-analysis. The inclusion criteria of this meta-analysis are trying to reduce bias, such as enrolling patients with an age greater than 18 years. However, the other inclusion criteria were limitations of including articles to randomized control trials comparing imipenem/cilastatin/relebactam against standard of care in patients with complicated intra-abdominal infection (cIAI), urinary tract infection (UTI), and hospital-acquired pneumonia, which varies in infection type also no mention about a variety of bacterial pathogens. Accordingly, four studies in this meta-analysis have different infection types; cIAI, complicated UTI, hospitalacquired bacterial pneumonia, ventilator-associated bacterial pneumonia, and bacterial pathogens. Also, a study with imipenem resistant bacteria-infected patients [2] has different sample populations from other studies and led to bias in the microbiologic efficiency or antimicrobial susceptibility test results comparing between studies.

Another problem with this method is the comparative arm. Among the four studies included in this meta-analysis, two studies were used "placebo + imipenem," one study was used colistin + imipenem, and one study was used piperacillin + tazobactam as a compactor arm. To compare the efficiency of antibiotics or treatment, the comparator arm of studies must be identical. Reporting overall odds ratio based on different comparators causes to be on bias results of the meta-analysis.

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The subgroup analysis should be used for different comparator arm studies. The publication bias was not analyzed; the funnel plot or Egger's regression test, Begg's rank test can be helpful to find out publication bias in meta-analysis.

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