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Letter to the Editor

Interest in the monitoring of eosinophil count as a marker of the response to antimicrobial therapy: In response to Karakonstantis and Dimitra

We read with great interest the letter by Karakonstantis and Kalemaki (2018) in response to our article regarding changes in eosinophil count during bacterial infection (Davido et al., 2017a). We would like to thank the authors for their interest in our results and for sharing their experience with the readers.

First the authors believe that using mean values to compare eosinophil counts between groups may have resulted in a statistical bias, considering that eosinophil counts in patients with infection may not follow a normal distribution. As highlighted by the authors, because we had a small range of values (between 0 and 100), our eosinophil counts more readily met a bell-shaped distribution (mean close to median). The results were also confirmed by non-parametric tests ($p < 0.001$).

Unlike group 1, which was composed of a sample of >30 patients, group 2 had fewer than 30 individuals. We purposely decided not to create a third group with only the four patients from group 2 who did not receive any antibiotic treatment until day 1, as this would have resulted in a lower statistical power. Moreover, we believe that the patients in group 2 who received an ineffective antimicrobial agent can be treated equally to those patients who did not receive any antibiotic regimen until day 1.

With regard to the suggestion that differences in treatment between the groups may have resulted in cofounding, especially because fluoroquinolones were more often used in group 1 and trimethoprim–sulfamethoxazole (TMP–SMX) in group 2, we disagree with this argument. Contrary to what is argued (Talan et al., 2000) by Karakonstantis and Dimitra, treatment with TMP–SMX does not require a longer course than ciprofloxacin. Indeed, it has recently been showed that a 7-day course of TMP–SMX may be as effective as a 7-day course of fluoroquinolones in pyelonephritis (Fox et al., 2017; Davido et al., 2017b).

Knowing that corticosteroids are a recognized cause of eosinopenia, we excluded patients who received such treatment during long-term therapy. We apologize for not specifying that clearly. We also prevented any prescription of corticosteroids after admission to avoid confusion in the interpretation of the complete blood count.

Unlike a previous study that gathered data from both viral and bacterial infections (Montesanti et al., 1997), we intentionally only considered bacterial infections and decided to exclude all viral infections to avoid confusion and bias. What we meant by "recovery from eosinopenia likely does not apply to viral infections" was not that eosinopenia does not exist during viral infections, but that changes in eosinophil count may act differently over time. Therefore our findings should not be extrapolated to viral infections.

Author contributions

BD, AM and PDT prepared the first draft of the manuscript. JS, GD, AD and PDT corrected the final manuscript. All the authors participated in manuscript preparation and approved the final manuscript for publication.

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Conflict of interest

The authors declare that they have no competing interests.

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