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Letter to Editor

Paediatrics Section

Correspondence: Assessment of Treatment of Community Acquired Severe Pneumonia by Two Different Antibiotics

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Dear Sir,

We read with great interest the original article by Salih et al., in the May 2016 issue of your journal [1]. At first, we would like to commend the authors for their endeavour but at the same time feel that few clarification are required and also would like to make the following comments which would benefit the general readers of JCDR:

1. The second aim of the study is stated "to compare differences in response to 3rd generation Cephalosporin and β-lactam inhibitors", but the authors have not calculated whether the differences in any of the observed response parameters were statistically significant (p-value) neither between the two intervention groups (Ceftriaxone vs. beta-lactum) or even have not compared the two intervention groups with the control (Penicillin) group. Authors go on to confer that "In this study no significant difference in outcome between augmentin and 3rd generation cephalosporin (the 1st group and 2nd group of the drugs), however this study showed similar response rate for both drugs and similar failure rate"; again for the above mentioned reason such an inference cannot be drawn.

2. The 'case-control' nature of the study necessitates the case and control groups to be comparable in respect to the baseline characteristics (age, gender, nutritional status, etc.,) or potential confounders (time of first dose of antibiotic, presence of respiratory failure, haemodynamic instability, pleural effusion, empyema, etc.,) for studying the outcome measures. Though it is mentioned that "Demographic variables were recorded. These variables were used to compare and look for correlations and clinical significance" but such comparison between the case and control groups are not made with the table-1 given in article in which only summarising the number and percentages in different groups without application of any statistical test of significance.

3. The exclusion criteria mention exclusion of patients with "Exposure to any investigational drug or procedure within 1 month prior to study entry". But receiving antibiotics other than the ones being investigated (Penicillin, Augmentin and Ceftriaxone) also during the current illness and proceeding few days is expected to change the course of the illness and thus influence the outcome. Therefore, such patients should have been ideally excluded as well.

4. The study involved interventions in the form of administration of intravenous antibiotics (Penicillin, Augmentin and Ceftriaxone). But there is no information on the dose, interval and brand used for any of these medications.

5. In the methodology it is mentioned that "the response was determined clinically after 72 hours vital sign's; systemic examination and by laboratory investigation using complete blood count and C-reactive protein (CRP)" but the results reflect one of the assessed parameters to be 'hospital stay more than or less than 7 days' as well. The other outcome measures such as 'complaint after 3 days', 'vital signs after 3 days' and 'investigation after 3 days' needed further elaboration as no cut-off value for abnormal vital or investigative parameters (CRP, blood counts) are provided.

6. At the outset, the authors declare that only 3 patients were excluded in view of incomplete information. But in table-3 in the article reveals the positivity rate of only blood culture in all 132 subjects, rest of the parameters e.g., CRP, White Blood Cell (WBC), chest x-ray for 99 subjects only. Especially, it is very interesting to find clinical parameters such as temperature and oxygen saturation also provided for only 99 patients! None of the parameters were presented according to their distribution in various treatment groups which could have at least provided an idea of their differences in 3 groups even in the absence of statistical tests of significance being applied.

7. The authors attributed the failure rate of Augmentin and Ceftriaxone group to "the misdiagnosis or the complication of the disease" and also go onto explain that "This failure of the treatment in both groups was most probably due to the initial presentation in subtle or mild form or early stage that could not be detected clinically or radiologically." But the penicillin group actually had the highest complication rate (21.2%), which should then account for the highest failure rate observed rather than the bacterial resistance, as per authors' explanation.

REFERENCES

[1] Salih KMA, Bilal JA, Eldouch W, Abdin A. Assessment of treatment of community acquired severe pneumonia by two different antibiotics. *J Clin Diagn Res*. 2016;10:SC06-09.

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