Author's response to reviews

Title: Procalcitonin Guided Antibiotic Therapy of Acute Exacerbations of Asthma

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Author's response to reviews: see over
Dear Editor:

We would like to submit a manuscript entitled “Procalcitonin Guided Antibiotic Therapy of Acute Exacerbations of Asthma” for publication on BMC Infectious Diseases.

We are interested in evaluating whether the serum procalcitonin (PCT) level in asthma patients can be utilized to guide the use of antibiotics in the treatment of acute exacerbations of asthma. We conducted a study involving 255 asthma patients that are assigned randomly in two groups. All patients received similar standard treatment. In addition to the standard treatment, the control group received antibiotics according to the attending physicians’ discretions, while the patients in the PCT group were treated with antibiotics according to serum PCT concentrations. Our results suggest that the serum PCT concentration can indicate bacteria infection in the respiratory tract of asthma patient with high sensitivity and specificity, thus accurately guiding the usage of antibiotics in their treatment. We showed that using the serum PCT level as guideline successfully prevented unnecessary usage of antibiotics in asthma patients, especially patients with mild to moderate asthma, while maintaining the overall therapeutic outcome. In addition, we determined that the serum PCT level correlates positively with the level of an inflammatory indicator, IL-6. Both PCT and IL-6 levels of patients with severe to critical asthma in the PCT group were higher than that of patients with mild to moderate asthma in the same group, indicating that patients with severe to critical asthma may be more prone to bacterial infection than patients with mild to moderate asthma. Thus we conclude that PCT test can reduce unnecessary antibiotics use significantly and prevent the occurrences of antibiotics resistance in the treatment of acute asthma, particularly in countries where patients are suffering from the abuse of antibiotics.

We believe that our study will be of significant interest to the broad readership of BMC Infectious Diseases. We appreciate your consideration of our manuscript for publication in BMC Infectious Diseases and we look forward to hearing from you.

Sincerely,
Tang