

Procalcitonin level comparison in HIV/AIDS patients between non-bacterial and bacterial pneumonia in east Indonesia

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ABSTRACT

Lower respiratory tract infections including pneumonia were the most common diseases diagnosed in HIV/AIDS patients. Bacteria, fungi, and viruses were pathogens that were often detected in pneumonia cases and required different management. Infection biomarkers including procalcitonin will give clinicians scientific reasoning to determine the etiology of pneumonia. However, procalcitonin level in bacterial and non-bacterial pneumonia in HIV/AIDS patients is still poorly understood. This study was conducted to compare levels of procalcitonin bacterial and non-bacterial pneumonia in HIV/AIDS patients. This research was a cross-sectional designed study with a consecutive sampling technique and has been conducted in the HIV ward of Dr. Soetomo Public Hospital which is an East Indonesian HIV referral hospital. Samples were HIV with pneumonia co-infection patients who were hospitalized and met the inclusion criteria. Total samples were twenty subjects divided into three groups. They were eight samples in the bacterial pneumonia group, six samples in the non-bacterial pneumonia group, and six samples in the mixed group. We found that levels of procalcitonin in the bacterial group had higher mean and median values than in the non-bacterial group (12.35 ng/mL and 2.76 ng/mL vs 1.45 ng/mL and 1.35 ng/mL), but the difference was not significant ($p=0.302$). Procalcitonin also did not correlate with the number of leukocytes, neutrophils, and CD4. There was no significant difference in the value of procalcitonin in bacterial and non-bacterial pneumonia in HIV/AIDS patients.

Keywords: Pneumonia, Bacterial, Procalcitonin, Neutrophils, CD4, HIV

Data from the Directorate General of Disease Prevention and