ABSTRACT

Descriptive Study about Correlation of Procalcitonin Level with Neutrophil-Lymphocyte Ratio in Patient with Systemic Inflammatory Response Syndrome

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Background: The diagnosis of sepsis is complicated due to the highly variable and non-specific nature of its signs and symptoms. Systemic inflammatory response syndrome (SIRS), like sepsis, is marked by host immune response, only through non-infectious stimuli. Procalcitonin (PCT) is a potentially more specific marker for bacterial infection. PCT is produced ubiquitously in response to endotoxin or mediators released in response to bacterial infections (that is, interleukin (IL)-1β, tumor necrosis factor (TNF)-α, and IL-6) and strongly correlates with extent and severity of bacterial infections. Bacterial infection is marked by neutrophilia and lymphocytopenia. Neutrophil-lymphocyte ratio (NLCR) is a good marker of diagnosis for bacterial infection, with sensitivity of 91% and specificity of 96%.

Methods: This research uses descriptive analytic test, using inclusion and exclusion criteria so that all patients included in the research is having systemic inflammatory response syndrome. This research was conducted at May to June 2017 in the intensive care unit department of Husada Utama Hospital Surabaya. Result that was obtained from the research is that there is weak correlation strength between PCT and NLCR in patient with SIRS.

Results: Result that was obtained from the research is that there is no significant correlation between PCT and NLCR in patient with SIRS, along with weak correlation strength between the two.

Conclusion: Result of this research suggests further research to analyze correlation of PCT with NCLR in patient with SIRS, and to add more inclusion and exclusion criteria to make data more homogenous.

Keywords: Procalcitonin, neutrophil-lymphocyte ratio, systemic inflammatory response syndrome