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CORRELATION BETWEEN TNF-Î±, IL-1Î², PGE2 AND sPLA2 LEVELS WITH SEVERITY OF DENGUE HEMORRHAGIC FEVER

Abstract

This study analyzed the correlation between the severity of dengue hemorrhagic fever patients with the immunological profile such as sPLA2, IL-1Î², TNF-Î±, and PGE2. This study is a cross sectional observational research performed between February 2009 – November 2009, comprising 45 patients hospitalized in the Tropical-Infection Ward Department of Internal Medicine Dr. Soetomo Hospital. The examinations of sPLA2 (correlate enzyme assay), IL-1Î², TNF-Î±, and PGE2 by EIA method were performed in the Department of Clinical Pathology, Medical Faculty and Institute of Tropical Disease Airlangga University. It was shown that there was no significant influence on the severity of dengue hemorrhagic fever, because there was no linear correlation. In this study, an increased level in grade 2 compared to grade 1 was found, but in grade 3 the level was decreased. Using Anova in this study a significant difference was found only in IL-1Î² (p=0.000) on the severity of dengue hemorrhagic fever. A significant difference was found in grade 1 and 3 (p=0.040), also in grade 2 and 3 (p=0.040). This condition may be caused by a decrease in the inflammation process in grade 3, but the severity of dengue hemorrhagic fever could be influenced by virus strains, complement, thromboxane, leucotriene or other factors that could influence endothel permeability and capillary endothel dysfunction causing greater plasma leakage. No correlation was found between sPLA2, IL-1Î², TNF-Î±, and PGE2 and the severity of dengue hemorrhagic fever, but in IL-1Î² a difference was found. This could be caused by a decrease of inflammatory process in grade 3. Further studies with different parameters which can cause the severity of the disease such as virus strains, complemen, thromboxane, leucotriene or other factors have to carried out.

Keyword: IL-1Î², TNF-Î±, PGE2, sPLA2, dengue, hemorrhagic

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