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Systemic Inflammatory Response Syndrome as a Prognostic Predictor of Acute Ischemic Stroke

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Systemic Inflammatory Response Syndrome (SIRS) is a systemic response to infection and non-infectious forms known in various conditions such as acute cerebral ischemic stroke. The aim of this study was to determine the relationship and significance of SIRS on hospital admission as a prognostic predictor factor of acute ischemic stroke patients. The study used a prospective observational cohort method. The subjects were taken from patients treated in the stroke unit and neurologic ward RSUP Dr. Sardjito Yogyakarta, Indonesia. The occurrence of SIRS was assessed according to the presence of ≥ 2 of the following: body temperature $< 36^{\circ}\text{C}$ or $> 38^{\circ}\text{C}$, heart rate of > 90 bpm, respiratory rate > 20 breaths/min and white blood cell count of $< 4000/\text{mm}^3$ or $> 12000/\text{mm}^3$. SIRS criteria and other prognostic parameters were evaluated as predictors of dichotomous Gadjah Mada Stroke Scale score. A total of 86 subjects divided into two groups, the 43 patients who met the criteria of SIRS and 43 patients without SIRS.

Results: The results of univariate analysis found that there are 3 significant factors as predictors of worsening neurological deficits, such as the SIRS event on hospital admission ($p < 0.01$, RR 4.00 CI 95% 1.96 to 8.15), history of hypertension ($p = 0.04$; RR 2.94 CI 95% 0.80 to 10.78) and systolic blood pressure ($p = 0.01$, RR 2.26 CI 95% 1.12 to 4.55). Multivariate analysis found SIRS event on hospital admission affect the progression of worsening neurological deficits significantly. SIRS at hospital admission can be used as a predictor of worsening neurological deficits in patients with acute ischemic stroke.

Biography:

Fakhrurrazy is a neurologist at Ulin General Hospital Banjarmasin, Indonesia since 2013 and has been a teaching lecturer at the Medical Faculty Lambung Mangkurat University Banjarmasin, Indonesia since 1998. He graduated general practitioners in 2000 from the medical faculty Lambung Mangkurat University, master degree in neurological physiology from Medical Faculty Gadjah Mada University Yogyakarta, Indonesia in 2004 and completed his education as a neurology specialist at Gadjah Mada University in 2013. His field of study is neuroinfection. Several studies are published in journals and presented at scientific events at the local and national levels in Indonesia.