

ABSTRACT

**EFFECT OF SIMVASTATIN IN SERUM INTERLEUKIN-6 LEVEL IN
PATIENTS WITH ACUTE ISCHEMIC STROKE
(Study at Neurology Department of Dr. Soetomo Teaching Hospital Surabaya and
Airlangga University Hospital Surabaya)**

Background: Acute ischemic stroke is the leading cause of death and the cause of permanent disability in adults worldwide. In acute ischemic stroke, there is an increase in IL-6 levels that were correlated with more severe neurological deficits, more extensive brain damage and worse prognoses. An updated meta-analysis indicated that prestroke statin use was associated with milder initial stroke severity, better functional outcome and lower mortality

Objectives: To analyze the difference of serum IL-6 levels between the group of acute ischemic stroke patients treated with Simvastatin 20 mg and the ischemic stroke patients in placebo group.

Methods: . Samples were taken using consecutive sampling method from hospitalized acute ischemic stroke patients in Neurology Department of Dr. Soetomo Teaching Hospital Surabaya and Airlangga University Hospital Surabaya from August to November 2017.

Results: Total of 44 patients met the inclusion criteria, consisting of 22 patients in treatment group and 22 patients in control group. There were no significant difference in the characteristic of the patients in both groups ($p > 0.05$). Averages of serum IL-6 in the control and the treatment group are 38.594 ± 74.313 and 17.760 ± 25.253 ($p = 0,438$) while averages of serum IL-6 post in the control group and the treatment are 46.586 ± 103.484 and 15.275 ± 17.183 ($p = 0,589$). There were no significant level escalation in pre and post of control group ($p = 0.205$) and also no significant level reduction in pre and post of treatment group ($p = 0.411$), while the average difference in the control group (-7.992 ± 78.912 pg/ml) and in the treatment group (2.485 ± 23.738 pg/ml).

Conclusion: Simvastatin 20 mg was not significantly decreases IL-6 serum level in the acute ischemic stroke patients.

Keywords: Acute Ischemic Stroke, IL-6, Simvastatin