

INTISARI

Latar belakang: Stroke merupakan penyebab kematian ketiga didunia setelah penyakit jantung koroner dan kanker, serta merupakan penyebab disabilitas pertama. Dislipidemia merupakan faktor risiko independen untuk terjadinya stroke iskemik akut melalui pembentukan atherosklerosis yang berkembang menjadi atherosklerotrombosis pada kejadian stroke iskemik akut. Vascular Endotelial Growth Factor (VEGF) merupakan agen mitotik yang berperan sentral dalam kejadian atherosklerosis dan stroke iskemik.

Tujuan: Penelitian ini dilakukan untuk mengetahui hubungan antara status dislipidemia pada pasien stroke iskemik akut terhadap kadar VEGF-A serum.

Metode: 44 Subjek stroke iskemik akut (20 subjek stroke iskemik akut dengan dislipidemia, 24 subjek stroke iskemik akut tanpa dislipidemia) dengan usia antara 45 hingga 80 tahun yang dirawat di RSUP DR. Sardjito Yogyakarta. Dikelompokkan menjadi dua kelompok, kelompok stroke iskemik akut dengan dislipidemia dan tanpa dislipidemia sesuai kriteria National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III). Pada subjek dilakukan pengambilan darah vena sebanyak 20 cc, serum subjek diambil untuk diukur kadar VEGF-A yang terlarut menggunakan cara kuantitatif sandwich Enzyme Linkage Immuno Sorbent Assay (ELISA). Tingkat kepercayaan 95%, ($p < 0,05$).

Hasil: Didapatkan median kadar VEGF-A serum pada kelompok stroke iskemik akut sebesar 560,90 pg/mL (standar deviasi $\pm 234,26$ pg/mL) dan pada kelompok stroke iskemik akut tanpa dislipidemia sebesar 351,20 pg/mL (standar deviasi $\pm 163,37$ pg/mL). Terjadi peningkatan kadar VEGF-A secara signifikan pada kelompok stroke iskemik akut dengan dislipidemia dibanding kelompok stroke iskemik akut tanpa dislipidemia, dengan tingkat kemaknaan 0,033 ($p < 0,05$). Terbukti adanya korelasi positif antara status dislipidemia dengan kadar VEGF-A serum dengan nilai nilai korelasi (r) 0,031.

Kesimpulan: Terdapat perbedaan kadar VEGF-A pada subjek stroke iskemik akut dengan dislipidemia dibandingkan pada subjek stroke iskemik akut tanpa dislipidemia.

Kata kunci: *Stroke iskemik akut, dislipidemia, VEGF-A, angiogenesis*

ABSTRACT

Comparison of Vascular Endothelial Growth Factor- A (VEGF-A) Expression in Acute Ischemic Stroke Patients with Dyslipidemia and Acute Ischemic Stroke Patients without Dyslipidemia

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Background: Stroke is the third leading cause of death in the world after coronary heart disease and cancer, and is also the leading cause of disability. Dyslipidemia is an independent risk factor for the occurrence of acute ischemic stroke through formation of atherosclerosis that develops into atherosclerothrombosis in the acute ischemic stroke event. Vascular Endothelial Growth Factor (VEGF) is a mitotic agent that has central role in the atherosclerosis and ischemic stroke events.

Objectives: This study was conducted to find out the relationship between dyslipidemic status in patients with acute ischemic stroke towards serum VEGF-A level.

Methods: 44 acute ischemic stroke subjects (20 acute ischemic stroke subjects with dyslipidemia, 24 acute ischemic stroke subjects without dyslipidemia) with the age between 45 to 80 years hospitalized in RSUP DR. Sardjito Yogyakarta were included in this study. The subjects were divided into two groups, a group of acute ischemic stroke with dyslipidemia and a group of acute ischemic stroke without dyslipidemia, based on National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) criteria. 20 cc of venous blood sampling was withdrawn from subjects, with subjects' serum was taken to measure dissolved VEGF-A level using a quantitative method of sandwich Enzyme Linkage Immunosorbent Assay (ELISA). Confidence interval (CI) was 95% ($p < 0,05$).

Results: Median level of serum VEGF-A in acute ischemic stroke group with dyslipidemia was 560.90 pg/mL (standard deviation ± 234.26 pg/mL) and in acute ischemic stroke group without dyslipidemia was 351.20 pg/mL (standard deviation ± 163.37 pg/mL). A significantly increased level of serum VEGF-A was observed in acute ischemic stroke group with dyslipidemia, compared to acute ischemic stroke group without dyslipidemia, with significance value of 0.033 ($p < 0.05$). There was evident showing a positive correlation between dyslipidemic status in patients with acute ischemic stroke and level of serum VEGF-A with correlation value (r) of 0.031.

Conclusions: There was a difference of serum VEGF-A level expression in acute ischemic stroke patients with dyslipidemia than in acute ischemic stroke patients without dyslipidemia.

Keywords: Acute ischemic stroke, dyslipidemia, VEGF-A, angiogenesis