

Korelasi Kadar 8-Hydroxy-2-Deoxyguanosine (8-OHdG) Serum dengan Derajat Defisit Neurologis pada Strok Iskemik

Liza,¹ Ida Parwati,¹ Andi Basuki Prima Birawa,² Sylvia Rachmayati¹

¹Departemen Patologi Klinik Fakultas Kedokteran Universitas Padjadjaran, ²Departemen Ilmu Penyakit Saraf Fakultas Kedokteran Universitas Padjadjaran

Abstrak

Peningkatan stres oksidatif, sekresi radikal bebas pada strok iskemik dapat merusak inti sel neuron di otak. Peningkatan kadar 8-hydroxy-2-deoxyguanosine (8-OHdG) serum pada strok iskemik yang merupakan hasil interaksi radikal bebas dengan gugus C8 basa guanin menandakan kerusakan sel neuron otak yang tercermin pada penilaian defisit neurologis menggunakan skor *The National Institutes of Health Stroke Scale* (NIHSS). Tujuan penelitian ini untuk mengetahui korelasi kadar 8-OHdG serum dengan derajat defisit neurologis menggunakan skor NIHSS. Bentuk penelitian adalah observasional dengan desain penelitian potong lintang. Penelitian dilakukan di RSUP Dr. Hasan Sadikin Bandung pada bulan Agustus 2013 hingga Januari 2014. Subjek penderita stroke iskemik *onset* akut berdasarkan CT-scan. Analisis statistik menggunakan Uji Kruskal-Wallis, Uji korelasi Rank Spearman. Sebanyak 72 subjek penelitian diperoleh median kadar 8-OHdG dalam serum dengan defisit neurologis ringan 3,9 ng/mL (3,3–12,0 ng/mL), sedang 23 ng/mL (8,0–51,0 ng/mL), berat 77,5 ng/mL (54,0–97,0 ng/mL). Korelasi kadar 8-OHdG serum dengan derajat defisit neurologis $r=0,912$ ($p<0,001$). Simpulan, kadar 8-OHdG dalam serum pada strok iskemik berkorelasi positif sangat kuat dengan derajat defisit neurologis, hal ini dapat dipertimbangkan untuk digunakan pada keadaan ketidaksesuaian antara gambaran CT-scan dan klinis atau pada fasilitas kesehatan yang tidak mempunyai CT-scan. [MKB. 2014;46(3):177–82]

Kata kunci: Defisit neurologis, strok iskemik, 8-OHdG serum

Correlation between Serum 8-Hydroxy-2-Deoxyguanosine (8-OHdG) and Neurological Deficits in Ischemic Stroke

Abstract

Increased oxidative stress and free radicals can cause neuron cell damage. Serum 8-hydroxy-2-deoxyguanosine (8-OHdG) concentration is the result of free radical interactions with cluster C8 guanine bases, which is used to assess the degree of neuron cells damage and the oxidative stress levels. Increased serum 8-OHdG concentration indicating brain cells damage is reflected in neurological deficits based on the *The National Institutes of Health Stroke Scale* (NIHSS). The aim of this study was to determine the correlation between serum 8-OHdG concentration and the degree of neurological deficit by NIHSS. This was an observational cross-sectional study. Seventy-two patients with acute ischemic stroke who visited Dr. Hasan Sadikin General Hospital Bandung during the period of August 2013 to January 2014 were enrolled. Statistical analysis was performed using Kruskal-Wallis test and rank Spearman's correlation test. The mild neurological deficit median serum 8-OHdG concentrations was 3.9 ng/mL (3.3–12.0 ng/mL), moderate was 23 ng/mL (8.0–51.0 ng/mL), and severe was 77.5 ng/mL (54.0–97.0 ng/mL). Correlation of serum 8-OHdG concentration with neurological deficits in acute ischemic stroke $r=0,912$ ($p<0,001$). In conclusion, serum 8-OHdG have a strong meaningful positive correlation with neurological deficits. Serum 8-OHdG concentration may be considered to be use in the assessment of discrepancy between CT scan and clinical symptoms and in health facilities with no CT scan facility. [MKB. 2014;46(3):177–82]

Key words: Ischemic stroke, neurological deficits, serum 8-OHdG

Korespondensi: Liza, dr., Departemen Patologi Klinik, Fakultas Kedokteran Universitas Padjadjaran/Rumah Sakit Dr. Hasan Sadikin Bandung, *mobile* 081321946526, *e-mail* liza_doc@yahoo.com