CORRELATION OF SERUM URIC ACID LEVEL WITH SEVERITY OF PERIPHERAL DIABETIC NEUROPATHY

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Abstract

Diabetic neuropathy is the most common of chronic diabetes complication. In addition to identifying, it is also necessary to determine and evaluate the severity of neuropathy experienced. NDS-INA can be used to assess the severity of diabetic peripheral neuropathy. There is a relationship between serum uric acid levels and the incidence of diabetic peripheral neuropathy, but the correlation with the severity of neuropathy is unknown. This study aims to measure the correlation coefficient between serum uric acid levels and the severity of diabetic peripheral neuropathy as measured by NDS-INA.

This study was a cross-sectional study, the subjects of the study were patients with diabetic peripheral neuropathy in the neurology outpatient and ward RSUP Dr. Sardjito Yogyakarta that fulfills inclusion and exclusion criteria. Subjects were examined for serum uric acid levels and NDS-INA assessment. Correlation between serum uric acid level, demographic and laboratory variables with NDS-INA score was done by Spearman correlation test followed by linear regression test.

There were 57 subjects, the mean serum uric acid level was 6.27 ± 1.77; mean NDS-INA score of 6.39 ± 2.12 and median 6 (4-10). Significant bivariate correlation test results were correlations between serum uric acid levels and NDS-INA scores (r =0.263; p =0.048), HbA1c levels with NDS-INA scores (r =0.322; p =0.015) and duration of DM with NDS-INA scores (r = 0.311; p =0.019). In the multivariate test, HbA1c levels and DM duration were significantly correlated with the NDS-INA score (each B =0.355; p =0.004 and B =0.323; p =0.011), while serum uric acid levels did not show a significant correlation with the NDS-INA score (B =0.090; p =0.481).

In conclusion, there was no statistically significant positive correlation between serum uric acid levels and the severity of diabetic peripheral neuropathy based on NDS-INA.

Keyword: uric acid serum, peripheral diabetic neuropathy severity, NDS-INA
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KORELASI KADAR ASAM URAT SERUM DENGAN KEPARAHAN NEUROPATI PERIFER DIABETIK

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Intisari

Neuropati diabetik adalah komplikasi kronis diabetes yang paling banyak ditemui. Selain mengidentifikasi, diperlukan juga penentuan dan evaluasi derajat keparahan neuropati yang dialami. NDS-INA dapat digunakan untuk menilai derajat keparahan neuropati perifer diabetik. Terdapat hubungan antara kadar asam urat serum dengan kejadian neuropati perifer diabetik, namun korelasinya dengan tingkat keparahan neuropati belum diketahui. Penelitian ini bertujuan untuk mengukur koefisien korelasi antara kadar asam urat serum dengan keparahan neuropati perifer diabetik yang diukur dengan NDS-INA.

Penelitian ini merupakan penelitian *cross sectional*, subjek penelitian adalah pasien neuropati perifer diabetik di poliklinik saraf dan bangsal perawatan saraf RSUP Dr. Sardjito Yogyakarta yang memenuhi kriteria inklusi dan eksklusi. Subjek dilakukan pemeriksaan kadar asam urat serum dan penilaian NDS-INA. Korelasi antara kadar asam urat serum, variabel demografi dan laboratorium dengan skor NDS-INA dilakukan dengan uji korelasi Spearman dilanjutkan uji regresi linier.

Didapatkan 57 subjek penelitian, rerata kadar asam urat serum 6,27±1,77; rerata skor NDS-INA 6,39±2,12 dan median 6 (4-10). Hasil uji korelasi bivariat yang signifikan adalah korelasi antara kadar asam urat serum dengan skor NDS-INA (r =0,263; *p* =0,048), kadar HbA1c dengan skor NDS-INA (r =0,322; *p* =0,015) dan durasi DM dengan skor NDS-INA (r =0,311; *p* =0,019). Pada uji multivariat, kadar HbA1c dan durasi DM berkorelasi signifikan dengan skor NDS-INA (masing-masing *B* =0,355; *p* =0,004 dan *B* =0,323; *p* =0,011), sementara kadar asam urat serum tidak menunjukkan korelasi ysng signifikan dengan skor NDS-INA (*B* =0,090; *p* =0,481).

Kesimpulan penelitian ini, tidak terdapat korelasi positif yang bermakna secara statistik antara kadar asam urat serum dengan keparahan neuropati perifer diabetik berdasarkan NDS-INA.

Kata kunci: asam urat serum, keparahan neuropati perifer diabetik, NDS-INA
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