

Perbedaan rerata serum nerve growth factor pada kejadian neuropati perifer pasien artritis reumatoid = The mean difference of nerve growth factor serum in the occurrence of peripheral neuropathy in rheumatoid arthritis patients

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Abstrak

Latar Belakang : Neuropati perifer merupakan manifestasi ekstraartikular pada Artritis Reumatoid AR yang sudah lama diketahui dan ditemukan pada sekitar 50-57,4 pasien AR dengan patogenesis yang belum jelas hingga saat ini. Nerve Growth Factor NGF, yang dilaporkan berhubungan dengan kejadian neuropati perifer pada pasien Diabetes Mellitus ditemukan dengan kadar yang lebih tinggi pada pasien AR dibandingkan orang normal. Berdasarkan hal tersebut, diperlukan penelitian yang bertujuan mengetahui hubungan antara kadar NGF dengan kejadian neuropati perifer pada pasien AR.

Tujuan : Untuk mengetahui rata-rata kadar NGF darah dan ada tidaknya hubungan antara kadar NGF dengan kejadian Neuropati Perifer pada pasien AR.

Metode : Penelitian potong lintang dengan metode consecutive sampling pada pasien AR rawat jalan di poli reumatologi Rumah Sakit Cipto Mangunkusumo dilakukan dalam kurun waktu Juli 2015-Maret 2016.

Pemeriksaan laboratorium dan fisiologi yang dilakukan adalah NGF dan Elektromiografi-Kecepatan Hantar Saraf EMG-KHS. Subjek kemudian dikelompokkan menjadi 2 kelompok berdasarkan ada atau tidaknya neuropati perifer. Analisis bivariat kemudian dilakukan untuk melihat hubungan antara NGF dengan neuropati perifer diantara 2 kelompok. Data sekunder berupa usia, jenis kelamin, Laju Endap darah LED, C-Reactive Protein CRP, Disease Activity Score DAS 28 LED dan DAS 28 CRP didapat dari rekam medis sebagai data karakteristik dasar pasien.

Hasil : Sebanyak 132 pasien diikutsertakan dalam penelitian ini dan didapatkan neuropati perifer sebanyak 45,5 60 orang selama Juli 2015-Maret 2016. Median kadar NGF pada pasien AR adalah 4,11 pg/mL 0,0-24,5 pg/mL. Median NGF pasien AR dengan neuropati perifer adalah 4,11 pg/mL 1,1-20,83 pg/mL, sementara median NGF pada pasien AR tanpa neuropati adalah 3,89 pg/mL 0,0-24,5 pg/mL. Jenis neuropati yang ditemukan pada pasien AR adalah polineuropati 29 subyek/21,97, mononeuropati multipleks 20 subyek/15,15 dan Carpal Tunnel Syndrome 15 subyek/11,36. Pada penelitian ini tidak didapatkan hubungan antara kadar NGF serum dengan kejadian neuropati perifer pada pasien AR $p=0,716$.

Simpulan : Kadar NGF serum pasien AR didapatkan median sebesar 4 pg/mL dengan median NGF serum pada kelompok neuropati perifer 4,11 pg/mL dan kelompok tanpa neuropati 3,89 pg/mL. Tidak terdapat hubungan antara NGF serum dengan kejadian neuropati perifer pasien AR.

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Background : Peripheral neuropathy is an extra articular manifestations in Rheumatoid Arthritis RA, which has been known and is found in approximately 50 to 57.4 of patients with RA with an unclear pathogenesis until now. In DM type 2 patients, Nerve Growth Factor NGF is associated with peripheral neuropathy. NGF level is also reported to be higher among RA patients than that of among healthy subjects. The correlation between NGF level and peripheral neuropathy among RA has not been concluded yet.

Aim : To find out the mean levels of NGF blood serum and the relationship between the NGF serum levels

and Peripheral Neuropathy among patients with RA.

Methods : A cross sectional study using consecutive sampling method including patient of rheumatology clinic at Cipto Mangunkusumo hospital was performed between July 2015 to March 2016. The laboratory and physiology measurement include NGF level and Electromyography Nerve Conduction Velocities EMG NCV were examined to the subjects. Patients were classified into 2 groups based on the diagnosis of Peripheral Neuropathy PN PN positive and PN negative. Bivariate analysis were done to investigate the relationship between NGF and PN among groups. Secondary data such as age, sex, Erythrocyte Sedimentation Rate ESR, CRP, Disease Activity Score DAS 28 ESR and CRP obtained from their medical record as a basic characteristic data of patients.

Results : Among 132 subjects, PN was found in 60 subjects 45.5. The median level of NGF in RA patients was 4.11 pg mL 0.0 to 24.5 pg mL. The median NGF level of RA patients with peripheral neuropathy was 4.11 pg mL 1.1 to 20.83 pg mL, while the median of NGF level in RA patients without neuropathy was 3.89 pg mL 0.0 to 24.5 pg mL. Types of neuropathy among patients with AR were polyneuropathy 29 subjects 21.97, mononeuropathy multiplex 20 subjects 15.15 and Carpal Tunnel Syndrome 15 subjects 11.36. In this study we found no association between NGF serum level and peripheral neuropathy among patients with RA p 0.716.

Conclusion : The median of NGF serum level among RA patients was 4 pg mL. The median of NGF serum level among peripheral neuropathy group was 4.11 pg mL while the median of NGF level in RA patients without neuropathy was 3.89 pg mL. There was no relationship between NGF serum level and peripheral neuropathy among patients with RA.