INTISARI

HUBUNGAN ADEKUASI HEMODIALISA TERHADAP KADAR ASAM URAT PADA PENDERITA GAGAL GINJAL KRONIK YANG MENJALANI HEMODIALISA RUTIN DI RSUP DR. SARDJITO

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Latar Belakang. Penyakit gagal ginjal kronik saat ini sudah menjadi epidemi global dan prevalensinya sangat meningkat di seluruh dunia. Di Amerika Serikat prevalensi PGK mencapai 17%, sedangkan di Indonesia mencapai 12,5% pada populasi dewasa. Terdapat lebih dari 2 juta pasien yang saat ini menjalani HD di seluruh dunia. Hemodialisis terbanyak di lakukan di Amerika Serikat yang mencapai sekitar 350.000 orang, Jepang 300.000 orang, sedangkan di Indonesia mendekati 15.000 orang. Hubungan antara hiperurisemia dengan kejadian kardiovaskular dan kematian tidak hanya pada populasi umum, tetapi juga pada pasien dengan hipertensi atau penyakit kardiovaskular atau ginjal yang sudah ada sebelumnya. Ditemukan hubungan yang signifikan antara URR dan Kt/V yang digunakan dalam menilai adekusi hemodialisis dengan penurunan asam urat.
Tujuan Penelitian. Menganalisis hubungan adekuasi hemodialisis terhadap kadar asam urat pada penderita gagal ginjal kronik yang menjalani hemodialisis rutin.
Metode. Penelitian kohort retrospektif, pada pasien gagal ginjal kronik yang menjalani hemodialisis rutin. Penelitian dilakukan di Instalasi hemodialisis RSUP dr. Sardjito. Subjek yang memenuhi kriteria inklusi dan eksklusi sebanyak 61 subjek yang kemudian dilakukan analisis statistik. Terdapat dua kelompok subjek yaitu yang mengalami adekuasi HD sebanyak 10 subjek, dimana 2 subjek mengalami penurunan asam urat menjadi normal sedangkan 8 subjek tetap mengalami kondisi hiperurisemia dan yang tidak mengalami adekuasi HD sebanyak 51 subjek, dimana sebanyak 6 subjek mengalami penurunan asam urat menjadi normal sedangkan 45 subjek tetap mengalami kondisi hiperurisemia. Dilakukan uji dengan T-test, Anova, chi-square, korelasi spearman dan penilaian scatter plot.
Hasil Penelitian. Terdapat penurunan kadar asam urat akhir per 1,1 satuan dengan meningkatkan Kt/V 1 satuan (p=0,024). Hubungan adekuasi HD terhadap perubahan asam urat tidak didapatkan hubungan yang signifikan (p=0,61), pada uji rerata juga tidak didapatkan hubungan yang bermakna (p=0,952). Analisis dilakukan pada kelompok yang mengalami penurunan asam urat menjadi normal yaitu sebanyak 8 subjek, dengan uji korelasi Spearmen tidak didapatkan hubungan bermakna (p=0,177), tetapi didapatkan koefisien korelasi yang kuat yaitu sebesar 0,53 dan dengan gambaran scatter plot yang menunjukkan regersi linear positif dimana prediksi perubahan asam urat ditunjukkan dengan rumus y= -0,34 + 0,85x.
Kesimpulan. Tidak didapatkan hubungan yang signifikan antara adekuasi hemodialisis dengan perubahan kadar asam urat. Pada penelitian ini dengan peningkatan Kt/V dapat menurunkan kadar asam urat dan terdapat korelasi kuat terhadap perubahan asam urat dengan adekuasi hemodialisis.
Kata Kunci. Adekuasi Hemodialisis, asam urat, hiperurisemia, CKD, HD rutin.

ABSTRACT

THE CORRELATION BETWEEN HEMODIALYSIS ADEQUACY AND URIC ACID LEVEL IN CHRONIC KIDNEY FAILURE PATIENTS UNDERGOING ROUTINE HEMODIALYSIS IN DR. SARDJITO GENERAL HOSPITAL

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Background. Chronic kidney failure has been considered a global epidemic and its prevalence is escalating worldwide. In the United States, the prevalence rate of CKD is as high as 17%, whereas in Indonesia it reaches 12.5% of the adult population. There are more than 2 million patients currently undergoing HD throughout the world. Hemodialyses are mostly performed in the US, with as many as 350,000 people had them, followed by Japan with 300,000 people, while around 15,000 people in Indonesia are under hemodialysis. The association between hyperuricemia with cardiovascular events and death is not only found in the general population but also among hypertensive patients or patients with preexisted cardiovascular or kidney diseases. A significant association was found between URR and Kt/V used to assess hemodialysis adequacy with reduced uric acid.

Study objective. To analyze the correlation between hemodialysis adequacy and uric acid levels in patients with chronic renal failure undergoing routine hemodialysis.

Methods. We conducted a retrospective cohort study on chronic renal failure patients undergoing routine hemodialysis. The study was performed at the hemodialysis unit of dr. Sardjito General Hospital. A total of 61 subjects fulfilled the inclusion and exclusion criteria, who were then included in the analysis. Subjects were divided into two groups: one group had adequate HD (10 subjects), consisted of 2 subjects with decreased uric acid level to normal and 8 other subjects remained hyperuricemia; while another group (51 subjects) did not have adequate HD, consisted of 6 subjects with decreased uric acid to normal and 45 subjects remained hyperuricemia. Analyses were performed with T-test, Anova, chi-square, spearman's correlation and scatter plot assessment.

Study results. There was a reduction of 1.1 units of final uric acid level for each increment of 1 unit Kt/V ($p = 0.024$). The correlation between HD adequacy and uric acid level changes was not significant ($p = 0.61$), while the mean test also did not found a significant association ($p = 0.952$). A subgroup analysis was performed on a group with decreased uric acid level to normal (8 subjects) with the Spearmen correlation test. A non-significant ($p = 0.177$) but strong correlation was found with $r = 0.53$. A scatter plot graph suggested positive linear regression, where the change in uric acid can be predicted with the following formula $y = -0.34 + 0.85x$.

Conclusion. The correlation between hemodialysis adequacy and uric acid level changes was not significant. There was a reduction of final uric acid level for each increment of Kt/V and a strong correlation with shanges in uric acid and adequate hemodialysis.

Keywords. Hemodialysis adequacy, hyperuricemia, CKD, routine HD.