

Pengaruh Pemberian N-Acetylcysteine Oral terhadap High Sensitivity C Reactive Protein (hs-CRP) pada Pasien Hemodialisis Kronis = Effect of Oral N-Acetylcysteine to High Sensitivity C-Reactive Protein (hs-CRP) in Chronic Hemodialysis Patients

Ratih Tri Kusuma Dewi, author

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Abstrak

Latar belakang : Inflamasi dan stres oksidatif merupakan faktor risiko terhadap penyakit kardiovaskuler pada pasien penyakit ginjal kronis yang menjalani hemodialisis. Pasien hemodialisis kronis akan mengalami peningkatan kadar hs-CRP. hs-CRP merupakan marker inflamasi yang telah terbukti pada beberapa penelitian bermanfaat dalam memprediksi cardiovascular event. Pemberian N-Acetylcysteine (NAC) oral dapat digunakan sebagai strategi untuk menurunkan proses inflamasi yaitu disfungsi endotel dan stress oksidatif yang berperan pada atherosclerosis pada pasien hemodialisis sehingga dapat menurunkan angka morbiditas dan mortalitas karena penyakit kardiovaskuler. Tujuan penelitian : Mengetahui pengaruh pemberian N-Acetylcysteine oral terhadap penurunan kadar hs-CRP pada pasien hemodialisis kronis. Metode : Penelitian eksperimen dengan Randomized Double Blind Controlled Trial yang dilakukan selama periode Agustus sampai Oktober 2013 di unit hemodialisis RS. Cipto Mangunkusumo Jakarta. Subjek penelitian ini adalah pasien dengan penyakit ginjal kronis yang menjalani hemodialisis. Sebanyak 87 subjek direkrut, hanya 65 subjek yang memenuhi kriteria inklusi sebagai sampel. Sampel dirandomisasi menjadi dua kelompok, 33 subjek kelompok intervensi yang mendapatkan NAC 2x600 mg per hari dan 32 subjek kelompok kontrol yang menerima placebo 2x1 per hari selama dua bulan (60 hari). Terdapat 5 subjek yang drop out, sehingga hanya 60 subjek yang dapat menyelesaikan penelitian 30 subjek dalam kelompok NAC dan 30 subjek placebo. hs-CRP diukur dalam tiga interval waktu, sebelum (baseline), setelah bulan pertama (post 1), dan setelah bulan kedua (post 2). Hasil : Perlakuan dengan NAC oral selama 60 hari tidak memberikan perbedaan dibanding dengan placebo. Analisis statistik dengan Mann Whitney menunjukkan bahwa tidak ada penurunan kadar hs-CRP yang signifikan diantara kedua kelompok dengan p value post1-baseline, post2-baseline, and post2-post1 kelompok NAC dibanding kelompok placebo secara berurutan ($p=0.796$, $p=0.379$, $p=0.712$). Kami juga mencoba membandingkan penurunan kadar hs-CRP secara statistik pada tiap kelompok untuk tiga interval pengukuran hs-CRP dengan menggunakan uji Wilcoxon Signed Ranks hasilnya menunjukkan p value dari perbandingan kadar hs-CRP untuk masing-masing kelompok Baseline:Post1, Baseline:Post2, Post1:Post 2 (kelompok NAC vs kelompok placebo) secara berurutan (0.821 vs 0.651; 0.845 vs 0.358; 0.905 vs 0.789).

.....Background: Inflammation and oxidative stress are the risk factor for cardiovascular disease in patients with chronic kidney disease undergoing hemodialysis will have elevated levels of hs-CRP. hs-CRP is a marker of inflammation that has been proven in several studies use fully to predict cardiovascular events. The administration of oral N-Acetylcysteine (NAC) can be used as a strategy lowering the inflammatory process which end on the dialysis function and oxidative stress play a role in the atherosclerosis for hemodialysis patients therefore reduces morbidity and mortality due to cardiovascular disease. Objective: To determine the effect of oral N-Acetylcysteine in lowering the levels of hs-CRP in chronic hemodialysis patients. Methods: Randomized Double Blind Controlled Trial experimental study conducted during the period August to

November 2013 in the hemodialysis unit of Cipto Mangun kusumo Hospital. The subjects were patients with stage 5 chronic kidney disease undergoing hemodialysis. Eighty seven subjects were recruited, but only 65 subjects matched for inclusion criteria as samples. The samples were randomized into two groups : intervention group 33 subjects who received NAC2x600 mg per day and control group of 32 subjects who received placebo, both groups consumed the medicine for two months (60 days). There were 5 subjects dropped out, so there search completed by the end of 60 subjects with 30 subjects in NAC group and 30 subjects in the placebo group. The hs-CRP levels were measured in 3 interval of time, before (baseline), the first month (post1), and second month (post2). Result: Treatment with oral NAC for 60 days did not give any difference compare to PB. Statistically analysis with Mann Whitney test showed that there is no significant decrease of hs-CRP levels between two groups with the p value of post1-baseline, post2-baseline, and post2-post1 NAC group compare to placebo group respectively ($p=0.796$, $p=0.379$, $p=0.712$). We also try to compare the decrease of hs-CRP levels statistically in each group for 3 interval of hs-CRP check with Signed Ranks Wilcoxon test. The result showed p value of hs-CRP levels comparison within each group for Baseline : Post1, Baseline :Post2,Post1:Post2 (NAC group vs placebo group) respectively (0.821 vs 0.651; 0.845 vs 0.358; 0.905 vs 0.789). Conclusion: The administration of oral NAC has not been shown lowering the levels of hs-CRP in chronic hemodialysis patients.