INTISARI

PENGARUH TAMBAHAN TERAPI HEMOPERFUSI TERHADAP KADAR KALSIUM, GULA DARAH SEWAKTU, TROMBOSIT DAN LEUKOSIT PADA PASIEN HEMODIALISIS RUTIN: *MULTICENTER STUDY*

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Latar Belakang: Penyakit Ginjal Stadium Akhir (PGTA) merupakan masalah kesehatan global yang signifikan, dengan semakin banyaknya pasien yang memerlukan hemodialisis di Indonesia. Meskipun hemodialisis (HD) merupakan pengobatan standar untuk PGTA, namun pengobatan ini memiliki keterbatasan dalam membuang racun uremik tertentu. Penelitian ini menyelidiki efek kombinasi HD dengan hemoperfusi (HP) terhadap parameter darah, khususnya kalsium, glukosa darah, trombosit, dan leukosit, untuk mengevaluasi keamanan dan efikasi terapi kombinasi ini.
Tujuan: Penelitian ini bertujuan untuk mengetahui pengaruh tambahan terapi hemoperfusi terhadap kadar kalsium, glukosa darah sewaktu, trombosit, dan leukosit pada pasien hemodialisis rutin.
Metode: Penelitian quasi-experimental dengan desain pretest-posttest yang dilaksanakan di tiga rumah sakit pada Juli – Agustus 2023. Partisipan dibagi menjadi dua kelompok yaitu (1) pasien hemodialisis rutin dan (2) pasien hemodialisis dan hemoperfusi 4x/bulan di 3 RS. Analisis distribusi frekuensi normalitas dan homogenitas data menggunakan analisis univariat. Analisis bivariat digunakan untuk membandingkan kadar kalsium, glukosa darah sewaktu, trombosit, dan leukosit pre dan pasca tindakan serta perbedaan penurunan atau peningkatan pada keempat kadar tersebut antara kombinasi HD+HP dengan HD.
Hasil: Sejumlah 26 pasien yang diikutsertakan terbagi menjadi 2 kelompok (14 orang kelompok HD,12 orang kelompok HD+HP). Terdapat peningkatan kadar kalsium pre dan paska intervensi pada kedua kelompok secara bermakna ($p<0,05$) namun ketika dibandingkan antar dua kelompok, tidak ditemukan perbedaan yang bermakna ($p>0,005$). Tidak ditemukan perbedaan bermakna kadar trombosit, gula darah sewaktu, maupun leukosit pada kedua kelompok ($p>0,005$)
Kesimpulan: Pengaruh tambahan terapi hemoperfusi terhadap kadar kalsium, gula darah sewaktu, trombosit, dan leukosit tidak berbeda secara signifikan pada pasien hemodialisis rutin.

Kata kunci: PGTA, hemodialisis, hemoperfusi, kalsium, trombosit, leukosit, glukosa darah

ABSTRACT

EFFECTS OF ADDITIONAL HEMOPERFUSION THERAPY ON CALCIUM, BLOOD GLUCOSE, PLATELET, AND LEUKOCYTE LEVELS IN ROUTINE HEMODIALYSIS PATIENTS: A MULTICENTER STUDY

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Background: End-stage renal disease (ED) is a significant global health problem, with an increasing number of patients requiring hemodialysis in Indonesia. Although hemodialysis (HD) is the standard treatment for ED, this treatment has limitations in removing certain uremic toxins. This study applied the effect of the combination of HD with hemoperfusion (HP) on blood parameters, specifically calcium, blood glucose, platelets, and leukocytes, to provide the safety and efficacy of this combination therapy.
Objective: This study aims to determine the effects of additional hemoperfusion therapy on calcium levels, random blood glucose, platelets, and leukocytes in patients with routine hemodialysis.
Methods: This quasi-experimental study employed a pretest-posttest design and was conducted across three hospitals from July to August 2023. Participants were allocated into two groups: (1) patients receiving routine hemodialysis, and (2) patients receiving hemodialysis combined with hemoperfusion four times per month. Data normality and homogeneity were assessed using univariate analysis, while bivariate analysis compared calcium, random blood glucose, platelet, and leukocyte levels before and after the interventions. Differences in the variations of these parameters between the hemodialysis-only and the hemodialysis-hemoperfusion groups were examined.
Results: A total of 26 patients were enrolled and divided into two groups, with 14 patients in the hemodialysis group and 12 patients in the hemodialysis-hemoperfusion group. Both groups exhibited a significant increase in calcium levels post-intervention ($p<0.05$); however, intergroup comparison revealed no significant difference ($p>0.005$). No significant differences were observed in platelet levels, random blood glucose, or leukocyte counts between the two groups($p>0.005$).
Conclusion: The effect of additional hemoperfusion therapy on calcium levels, random blood sugar, platelets, and leukocytes was not significantly different in routine hemodialysis patients.

Keywords: ESRD, hemodialysis, hemoperfusion, calcium, platelet, leukocyte, blood glucose