

INTISARI

PERBEDAAN RASIO NEUTROFIL LIMFOSIT DARAH DAN INTERLEUKIN-6 DIALISAT BERDASARKAN TIPE MEMBRAN PERITONEUM PASIEN *CONTINUOUS AMBULATORY PERITONEAL DIALYSIS*

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Latar Belakang. Peritoneal dialisis (PD) merupakan salah satu modalitas terapi pengganti ginjal pasien penyakit ginjal kronik (PGK) dan yang dilakukan secara mandiri oleh pasien dikenal sebagai *continuous ambulatory peritoneal dialysis* (CAPD). Terapi PD memberikan efek perubahan struktural pada membran peritoneum akibat inflamasi kronis pada membran peritoneum dan dapat menyebabkan kegagalan ultrafiltrasi. Proses inflamasi memicu pelepasan mediator pro-inflamasi seperti IL-6. Rasio neutrofil limfosit (RNL) terbukti memiliki nilai prognostik dan prediktif dan diperkenalkan sebagai marker potensial untuk menentukan inflamasi termasuk pada pasien CAPD. Marker RNL didapatkan nilai yang sama tinggi dan berkorelasi positif dengan IL-6 pada orang sehat. *Peritoneal equilibration test* (PET) merupakan salah satu pemeriksaan untuk menilai tipe membran peritoneum sebagai membran dialisis dan hasilnya dipengaruhi oleh proses inflamasi yang mengakibatkan perubahan struktur dan fungsi peritoneum

Tujuan Penelitian. Mengetahui perbedaan RNL darah dan kadar IL-6 dialisis berdasarkan tipe membran peritoneum dan mengetahui hubungan antara RNL darah dan IL-6 dialisis pada pasien CAPD.

Subyek dan Metode Penelitian. Penelitian ini dilakukan secara potong lintang pada pasien PGK yang menjalani CAPD di Instalasi Rawat Jalan RSUP Dr Sardjito Yogyakarta sampai bulan November 2018. Subyek dilakukan pemeriksaan RNL darah dan kadar IL-6 dialisis dan dilakukan pemeriksaan PET.

Hasil Penelitian. Didapatkan 57 subyek penelitian. Tipe membran peritoneum melalui pemeriksaan PET didapatkan *high* 3,5%, *high average* 31,6%, *low average* 45,6% dan *low* 19,3%. Median RNL 3,14 (1,11-10,31) dan median kadar IL-6 29,78 (5,36-142,20). Rasio Neutrofil Limfosit berbeda tidak bermakna pada semua tipe membran peritoneum. Kadar IL-6 berbeda bermakna pada tipe membran peritoneum masing masing terdapat pada tipe *high* dengan *low average* ($p=0,018$), tipe *high* dengan *low* ($p=0,011$), dan tipe *high average* dengan *low* ($p=0,033$). Ada korelasi bermakna antara RNL dan IL-6 dengan koefisien korelasi (r)= 0,281 dan $p=0,034$.

Simpulan. Rasio Neutrofil Limfosit darah berbeda tidak bermakna berdasarkan tipe membran peritoneum sedangkan kadar IL-6 dialisis berbeda bermakna pada beberapa tipe membran peritoneum pasien CAPD dan ada korelasi positif bermakna antara RNL darah dengan kadar IL-6 dialisis.

Kata kunci: Rasio Neutrofil Limfosit - Interleukin-6 -Tipe Membran Peritoneum - CAPD

ABSTRACT

DIFFERENCES OF BLOOD NEUTROPHIL LYMPHOCYTE RATIO AND INTERLEUKIN-6 DIALYSATE BASED ON PERITONEAL MEMBRANE TYPE OF CONTINUOUS AMBULATORY PERITONEAL DIALYSIS PATIENTS

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Background. Peritoneal Dialysis (PD) is one of the modalities of renal replacement therapy for patients with chronic kidney disease (CKD) and which is performed independently by the patient is known as continuous ambulatory peritoneal dialysis (CAPD). Peritoneal Dialysis therapy exerts the effect of structural changes on the peritoneal membrane due to chronic inflammation of the peritoneal membrane and can lead to ultrafiltration failure. The inflammatory process triggers the release of pro-inflammatory mediators such as IL-6. Neutrophil lymphocyte ratio (NLR) has been shown to have prognostic and predictive value and has been introduced as a potential marker to determine inflammation, including in CAPD patients. Neutrophil lymphocyte Ratio markers were found to be equally high and positively correlated with IL-6 in healthy people. Peritoneal equilibration test (PET) is one of the tests to assess the type of peritoneal membrane as a dialysis membrane and the results are influenced by the inflammatory process that results in changes in the structure and function of the peritoneum.

Methods. In this cross-sectional study was conducted on CKD patients undergoing CAPD at the Outpatient Installation of Sardjito Hospital Yogyakarta until November 2018. The subjects were examined for blood NLR and dialysate IL-6 levels and PET examination was performed.

Result. Obtained 57 research subjects. The type of peritoneal membrane through PET examination was found to be high 3.5%, high average 31.6%, low average 45.6% and low 19.3%. The median NLR was 3.14 (1.11-10.31) and the median IL-6 level was 29.78 (5.36-142.20). Neutrophil Lymphocyte Ratios were not significantly different in all types of peritoneal membranes. The levels of IL-6 were significantly different in the type of peritoneal membrane, each of which was found in the high type with low average ($p=0.018$), high type and low ($p=0.011$), and high average type with low ($p=0.033$). There is a significant correlation between NLR and IL-6 with correlation coefficient ($r = 0.281$ and $p = 0.034$).

Conclusion. The NLR of blood was not significantly different based on the type of peritoneal membrane, while the levels of dialysate IL-6 were significantly different in several types of peritoneal membranes in CAPD patients and there was a significant positive correlation between blood NLR and dialysate IL-6 levels.

Keywords: Neutrophil Lymphocyte Ratio - Interleukin-6 - Peritoneal Membrane Type - CAPD

