

ABSTRAK

Latar Belakang : Gagal ginjal kronik merupakan kondisi penurunan fungsi ginjal secara progresif yang menyebabkan gangguan keseimbangan cairan, elektrolit, serta penumpukan zat sisa metabolisme dalam tubuh. Pada pasien gagal ginjal kronik yang menjalani hemodialisis, sering terjadi perubahan jumlah leukosit akibat inflamasi kronik dan gangguan sistem imun. Pemeriksaan hitung jenis leukosit umumnya menggunakan sampel darah EDTA yang sebaiknya segera diperiksa. Namun, pada kondisi lapangan sering terjadi penundaan pemeriksaan karena proses pengumpulan sampel terlebih dahulu, sehingga dapat memengaruhi hasil pemeriksaan laboratorium.

Tujuan Penelitian : Untuk mengetahui perbedaan jumlah hitung jenis leukosit pada darah EDTA yang diperiksa segera dan setelah 3 jam pada pasien gagal ginjal kronik.

Metode Penelitian : Penelitian ini merupakan penelitian observasional analitik dengan desain *one group pretest-posttest*. Sampel penelitian berupa 30 darah K₃EDTA pasien gagal ginjal kronik yang menjalani hemodialisis di Rumah Sakit PKU Muhammadiyah Yogyakarta. Pemeriksaan jumlah hitung jenis leukosit dilakukan menggunakan alat *Hematology Analyzer Beckman Coulter DxH 560*. Data dianalisis secara deskriptif dan statistik menggunakan uji normalitas *Shapiro-Wilk*, kemudian dilanjutkan dengan uji *Paired Sample T-Test*.

Hasil Penelitian : Hasil penelitian menunjukkan terdapat perbedaan bermakna pada neutrofil ($p=0,024$), limfosit ($p=0,002$), dan eosinofil ($p=0,038$) antara pemeriksaan segera dan setelah penundaan 3 jam. Sementara itu, basofil ($p=0,529$) dan monosit ($p=0,639$) tidak menunjukkan perbedaan yang signifikan. Nilai rata-rata neutrofil, limfosit, eosinofil, basofil, dan monosit cenderung mengalami penurunan setelah penundaan pemeriksaan.

Kesimpulan : Penundaan pemeriksaan darah K₃EDTA selama 3 jam pada suhu ruang dapat memengaruhi hasil jumlah hitung jenis leukosit terutama pada neutrofil, limfosit, dan eosinofil, sedangkan basofil dan monosit relatif lebih stabil.

Kata Kunci : Gagal Ginjal Kronik, Hitung Jenis Leukosit, Darah K₃EDTA, Penundaan Pemeriksaan

ABSTRACT

Background : Chronic kidney disease is a condition characterized by a progressive decline in kidney function, causing disturbances in fluid balance, electrolytes, and the accumulation of metabolic waste products in the body. In patients with chronic kidney disease undergoing hemodialysis, changes in leukocyte count often occur due to chronic inflammation and immune system disorders. Differential leukocyte count examination generally uses K_3EDTA blood samples that should be examined immediately. However, in field conditions, examination delays often occur due to the sample collection process, which may affect laboratory test results.

Objective : To determine the differences in differential leukocyte count in K_3EDTA blood examined immediately and after a 3-hour delay in patients with chronic kidney disease.

Methods : This study was an analytical observational study with a one group pretest-posttest design. The research samples consisted of 30 K_3EDTA blood samples from chronic kidney disease patients undergoing hemodialysis at PKU Muhammadiyah Hospital Yogyakarta. Differential leukocyte count examination was performed using the Beckman Coulter DxH 560 Hematology Analyzer. Data were analyzed descriptively and statistically using the Shapiro-Wilk normality test, followed by the Paired Sample T-Test.

Results : The results showed significant differences in neutrophils ($p=0.024$), lymphocytes ($p=0.002$), and eosinophils ($p=0.038$) between immediate examination and examination after a 3-hour delay. Meanwhile, basophils ($p=0.529$) and monocytes ($p=0.639$) showed no significant differences. The mean values of neutrophils, lymphocytes, eosinophils, basophils, and monocytes tended to decrease after the delayed examination.

Conclusion : A 3-hour delay in K_3EDTA blood examination at room temperature can affect differential leukocyte count results, especially neutrophils, lymphocytes, and eosinophils, while basophils and monocytes remain relatively stable.

Keywords : Chronic Kidney Disease, Differential Leukocyte Count, K_3EDTA Blood, Examination Delay