

ABSTRAK

PENGARUH WAKTU DAN SUHU PENYIMPANAN DARAH EDTA (*ETHYLENEDIAMINETETRAACETIC ACID*) TERHADAP JUMLAH DAN MORFOLOGI TROMBOSIT DI RSUD MELAWI

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PERPUSTAKAAN

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Pemeriksaan trombosit merupakan pemeriksaan hematologi penting untuk membantu diagnosis, prognosis, dan evaluasi terapi, sehingga diperlukan penanganan sampel yang tepat agar hasil akurat. Penelitian bertujuan mengetahui pengaruh waktu dan suhu penyimpanan darah EDTA terhadap jumlah dan morfologi trombosit di RSUD Melawi. Desain penelitian adalah quasi experiment, dilaksanakan di Laboratorium RSUD Kabupaten Melawi pada Januari–Februari 2026 dengan 6 sampel darah EDTA. Jumlah trombosit diperiksa menggunakan hematology analyzer, sedangkan morfologi trombosit diperiksa melalui hapusan darah tepi dengan pewarnaan Giemsa. Sampel diperiksa pada kondisi segera, penyimpanan suhu kulkas 4°C selama 4 dan 8 jam, serta suhu ruang 20°C selama 4 dan 8 jam. Analisis data uji Shapiro-Wilk, Levene's, dan Repeated ANOVA. Rerata jumlah trombosit pada pemeriksaan segera adalah 301,17 ribu/ μ L, menurun menjadi 290,33 ribu/ μ L (kulkas 4°C, 4 jam), 273,83 ribu/ μ L (kulkas 4°C, 8 jam), 281,50 ribu/ μ L (suhu ruang, 4 jam), dan 264,50 ribu/ μ L (suhu ruang, 8 jam). Morfologi trombosit tetap normal pada semua kondisi penyimpanan. Uji Repeated ANOVA menunjukkan $F = 27,597$, $p < 0,001$, dan Partial Eta Squared = 0,847, yang berarti waktu dan suhu penyimpanan berpengaruh signifikan terhadap jumlah trombosit, namun tidak terhadap morfologinya. Suhu kulkas 4°C lebih stabil dibandingkan suhu ruang, sehingga lebih dianjurkan apabila pemeriksaan tidak dapat dilakukan segera.

Kata kunci : Darah EDTA, jumlah trombosit, morfologi trombosit, Pemeriksaan hematologi, RSUD Melawi

ABSTRACT

THE EFFECT OF TIME AND TEMPERATURE OF EDTA (*ETHYLENEDIAMINETETRAACETIC ACID*) BLOOD STORAGE ON PLATELET COUNT AND MORPHOLOGY IN MELAWI REGIONAL HOSPITAL

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Platelet examination is an important hematological test that supports diagnosis, prognosis requiring proper sample handling. This study examined the effect of EDTA blood storage time and temperature on platelet count and morphology at RSUD Melawi. This quasi-experimental study was conducted at the Laboratory of RSUD Kabupaten Melawi from January to February 2026 using 6 EDTA blood samples. Platelet count was measured using a hematology analyzer, while morphology was assessed through peripheral blood smears with Giemsa staining. Samples were examined immediately, after refrigerator storage at 4°C for 4 and 8 hours, and after room-temperature storage at 20°C for 4 and 8 hours. Data were analyzed using Shapiro-Wilk, Levene's, and Repeated Measures ANOVA tests. The mean platelet count for immediate examination was 301.17 thousand/ μ L, decreasing to 290.33 thousand/ μ L (4°C, 4 hours), 273.83 thousand/ μ L (4°C, 8 hours), 281.50 thousand/ μ L (room temperature, 4 hours), and 264.50 thousand/ μ L (room temperature, 8 hours). Platelet morphology remained normal under all storage conditions. Repeated Measures ANOVA showed $F = 27.597$, $p < 0.001$, and Partial Eta Squared = 0.847, indicating a significant effect on platelet count but not morphology. Storage at 4°C was more stable than at room temperature and is recommended when immediate examination is not possible.

Keywords: EDTA blood, Hematology Examination, Melawi Regional Hospital, platelet count, platelet morphology