

HUBUNGAN LAMA DAN SUHU PENYIMPANAN KONSENTRAT TROMBOSIT TERHADAP ANGKA TOTAL BAKTERI

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Abstrak

Konsentrat trombosit merupakan komponen darah yang paling rentan oleh kontaminasi bakteri karena kondisi penyimpanannya yang memungkinkan bakteri untuk tumbuh. Penelitian ini bertujuan untuk menganalisis hubungan antara lama penyimpanan dan suhu penyimpanan konsentrat trombosit terhadap angka total bakteri. Penelitian berupa kuasi eksperimental dengan memberikan variasi perlakuan pada penyimpanan sampel, menggunakan satu labu darah konsentrat trombosit segar dari PMI Kota Bandung yang dibagi kedalam tiga puluh aliquot masing-masing satu milliliter yang kemudian disimpan pada suhu 18°C, 22°C, dan 26°C selama satu hari, tiga hari, dan 5 hari kemudian diperiksa angka total bakterinya menggunakan metode angka lempeng total *pourplate*. Data yang diperoleh dianalisis menggunakan uji *General Linear Models Repeated Measures Two Ways*, didapatkan hasil dari *multivariate test* bahwa terjadi inteaksi antara lama penyimpanan dan suhu penyimpanan konsentrat trombosit dengan nilai signifikansi 0,000 ($p < 0,05$), dari *test of within subject effect* didapatkan bahwa lama penyimpanan konsentrat trombosit berpengaruh terhadap angka total bakteri dengan signifikansi 0,036 ($p < 0,05$), suhu penyimpanan konsentrat trombosit tidak mempengaruhi angka total bakteri dengan signifikansi 0,052 ($p > 0,05$), dan hubungan lama penyimpanan dan suhu penyimpanan konsentrat trombosit tidak mempengaruhi angka total bakteri dengan signifikansi 0,096 ($p > 0,05$). Dari hasil tersebut dapat disimpulkan bahwa hubungan lama penyimpanan dan suhu penyimpanan konsentrat trombosit tidak mempengaruhi angka total bakteri.

Kata kunci: konsentrat trombosit, lama penyimpanan, suhu penyimpanan, kontaminasi bakteri, angka total bakteri.

RELATIONSHIP BETWEEN STORAGE TIME AND STORAGE TEMPERATURE OF THROMBOCYTE CONCENTRATE TO TOTAL BACTERIA COUNT

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Abstract

Thrombocyte concentrate is the blood component most susceptible to bacterial contamination because of its storage conditions that allow bacteria to grow. This study analyzes the relationship between storage time and storage temperature of thrombocyte concentrate to the total number of bacteria. This study is using a quasi-experimental by providing a variety of treatments on sample storage, using one flask of fresh thrombocyte concentrate blood from PMI Bandung, which divided into thirty aliquots of one milliliter each, which then stored at 18 °C, 22 °C , and 26 °C for one day, three days, and five days, later the total number of bacteria examined using the pour plate method of total plate count. The data obtained were analyzed using the General Linear Models Repeated Measures Two Ways test. It was obtained from the multivariate test that there was an interaction between storage time and storage temperature of platelet concentrate with a significance value of 0.000 ($p < 0.05$), from the test of within-subject effect table, it was found that storage time of platelet concentrate affected the total number of bacteria with a significance of 0.036 ($p < 0.05$), the storage temperature of platelet concentrate did not affect the total number of bacteria with a significance of 0.052 ($p > 0.05$), and the relationship between storage time and storage temperature of platelet concentrate did not affect the total number of bacteria with a significance of 0.096 ($p > 0.05$). From these results, it can be concluded that the relationship between storage time and storage temperature of platelet concentrate does not affect the total number of bacteria.

Keywords: thrombocyte concentrate, storage time, storage temperature, bacterial contamination, total bacteria count.