

PENGARUH WAKTU SIMPAN TERHADAP PERUBAHAN pH, GLUKOSA, LDH, KALSIUM, MVP SEBAGAI INDIKATOR KUALITAS KOMPONEN DARAH THROMBOCYTE CONCENTRATE

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Abstract	<p>ABSTRAK Thrombocyte Concentrate (TC) merupakan komponen darah yang ditransfusikan untuk pasien yang mengalami pendarahan, kelainan fungsi trombosit dan trombositopenia. Pada beberapa literatur menyebutkan bahwa sediaan TC secara in vitro dapat disimpan selama 5-7 hari. Quality Control sebelum TC ditransfusikan yaitu melalui pengamatan secara visual ada tidaknya swirling dan melihat tingkat kejernihan TC. Namun pengamatan bersifat subjektif sehingga belum terstandar. Penelitian ini bertujuan untuk melihat pengaruh waktu penyimpanan TC terhadap kualitasnya. Kualitas TC diukur melalui beberapa cara yaitu pengukuran pH, kadar glukosa, Laktat Dehidrogenase (LDH), kalsium serta profil darah yang meliputi jumlah trombosit dan Mean Platelet Volume (MPV). Analisis kadar glukosa, LDH, dan kalsium dilakukan secara kolorimetri menggunakan spektrofotometer sedangkan profil darah diukur menggunakan hematology analyzer. Hasil menunjukkan bahwa TC yang disimpan pada hari ke-9 terjadi penurunan pH sebesar 7,38%, glukosa 20,10%, LDH 42,89% dan kalsium 62,54%. Jumlah trombosit mengalami penurunan sebesar 24,41% dan MVP mengalami kenaikan 18,84%. Kesimpulan pada sampel TC yang masih terdapat swirling, namun terjadi penurunan kualitas TC yang ditandai dengan penurunan jumlah trombosit serta kenaikan nilai MVP. Selain itu semakin lama waktu penyimpanan akan menurunkan kadar pH, kadar glukosa, LDH, dan kalsium. Kata Kunci: Masa Simpan Trombosit, pH, Glukosa, Kalsium, MPV.</p> <p>ABSTRACT Thrombocyte Concentrate (TC) is the blood component transfused for the patients with bleeding, abnormalities of platelet function and thrombocytopenia. In some literatures, it is mentioned that the TC preparation in vitro can be stored within 5-7 days. Quality Control before TC is transfused through a visual observation on the presence or absence of swirling and the clarity level of TC. However, this observation is subjective and makes it unstandardized. This research aims to see the effects of the shelf life of thrombocytes on its quality. The TC quality was measured through a number of ways including: pH measurement, glucose level, Lactate Dehydrogenase (LDH), calcium and profiles of blood including number of thrombocytes, and Mean Platelet Volume (MPV). The analysis on the glucose level, LDH, and calcium was conducted by colorimetric manner using the spectrophotometer and blood profile was measured using hematology analyzer. The result showed that TC stored in day 9 experienced the decrease of pH at 7.38%, glucose at 20.10%, LDH at 42.89% and calcium at 62.54%. The number of thrombocytes experienced a decrease of 24.41% and MVP experienced an increase of 18.84%. In conclusion, the sample of TC that had swirling experienced a decrease in the TC quality as characterized with the decrease of number of thrombocytes and the increase of MVP value. In addition, the longer storage could decrease the level of pH, level of glucose, LDH, and calcium. Keywords: Platelet Storage, pH, Glucose, Calcium, MPV.</p>
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Author	DIANI MENTARI, S.Si., M.Sc.