

## Efektivitas lekodepleksi dalam meningkatkan keamanan darah donor terhadap infeksi CMV = The effectiveness of leukodepletion for the improvement of blood donor safety against CMV infection

Ganjar Noviar, author

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### Abstrak

Sampai saat ini di Indonesia belum diketahui prevalensi seropositif CMV pada darah donor sehingga belum dilakukan uji saring terhadap antibodi CMV dan analisis DNA CMV pada PRC leukodepleted secara rutin untuk keamanan darah donor.

Tujuan penelitian ini adalah mendapatkan informasi efektifitas teknik leukodepleksi PRC terhadap deteksi DNA CMV, mendapatkan informasi mengenai prevalensi PRC dengan antibodi IgG CMV positif dan mendapatkan informasi mengenai prevalensi DNA CMV positif pada PRC non-leukodepleted serta PRC leukodepleted di UTD PMI Provinsi DKI Jakarta.

Metode yang digunakan desain potong lintang cross sectional dengan jumlah sampel 113 darah donor yang telah memenuhi kriteria inklusi. Uji saring antibodi IgG CMV menggunakan metode indirect chemiluminescence immunoassay ChLIA dengan alat Liason XL 10050 Chemiluminescence Analyzer dan analisis DNA CMV menggunakan metode qPCR untuk deteksi UL54 CMV dengan alat Roche Light Cycler 480 II.

Hasil penelitian menunjukkan prevalensi IgG CMV positif sebanyak 111 sampel 98,23 dan IgG CMV negatif sebanyak 2 sampel 1,77 . Prevalensi DNA CMV positif pada PRC non- leukodepleted adalah 1 sampel 0,88 dan PRC leukodepleted adalah 0 sampel 0.

Kesimpulan penelitian ini, PRC leukodepleted efektif dalam meningkatkan keamanan darah donor terhadap infeksi CMV. Kata kunci: Cytomegalovirus, PRC Leukodepleted, IgG CMV, qPCR UL54 CMV.

<hr><i>To date, the seropositive prevalence of CMV in blood donor is still remaining unknown. Therefore, no screening test for CMV antibody and CMV DNA analysis on leukodepleted PRC that is routinely performed in Indonesia for the safety of the blood donor.

The purpose of this study was to obtain information on the effectiveness of PRC leukodepleted techniques on CMV DNA detection, to obtain information on the prevalence of PRC with positive CMV IgG antibodies and to obtain information on the prevalence of positive CMV DNA in non leukodepleted PRC and leukodepleted PRC at UTD PMI DKI Jakarta.

Cross sectional design with total sample of 113 donor blood that has fulfilled the inclusion criteria was used as methodology. Indirect chemiluminescence immunoassay ChLIA method with Liason XL 10050 Chemiluminescence Analyzer was used for IgG CMV antibody screening test and qPCR technique with UL54 CMV by Roche light cycler 480 II was used for CMV DNA analysis.

The results showed that 111 samples 98.23 were positive to IgG CMV and 2 samples 1.77 was negative to CMV IgG. The prevalence of positive CMV DNA in PRC before leukodepleted was 1 sample 0.88 and PRC after leukodepleted was 0 sample 0.

The conclusion of this study is leukodepleted PRC effective to reduce the spread of CMV infection through blood transfusions. Key words Cytomegalovirus, PRC Leukodepleted, IgG CMV, qPCR UL54 CMV.</i>