

THE INFLUENCE OF REPEATED DONATION BY APHERESYS ON HEMATOLOGICAL PARAMETERS OF THE DONORS

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Repeated blood donation by apheresys might determine changes in haematological parameters or low calcemia and total serum proteins levels.

Material and Method: The study was conducted on a group of 100 donors of successive plasma and trombocyte donation by apheresys at the Blood Transfusion Center in Bucharest. Haemonetics cell separators (PCS, PCS+, MCS, 3P, MCS+) were used for collection which was done on a 30 days interval, with ACD-A as anticoagulant agent.

A statistic analysis was made on the evolution of haematological parameters (leucocytes, lymphocytes, trombocytes) and biochemical parameters (total proteins, total calcium and ionised calcium) after two, respectively ten successive donations by apheresys.

Results: The mean group value for leucocyte count was not significantly different ($p=0,55$) during the ten repeated donations and no increasing or decreasing tendency was observed.

The maximum value for lymphocyte count was $4000/\mu\text{L}$ and the minimum value was $700/\mu\text{L}$, with an average of $2047/\mu\text{L}$ for the ten successive donations.

By comparing mean values for each of the ten donations in the group, insignificant lymphocyte count differences ($p=0.05$) were found.

There were no significant differences between first blood donation trombocyte count and after ten repeated donation by apheresys trombocyte count, and also, mean trombocyte count values were not significantly different ($p=0.89$).

Regarding total serum proteins mean concentration for the whole group, there was an insignificant decrease after ten successive donations by apheresys ($p=0.12$) and no total serum proteins values lower than 6g/dl was registered for any of the donors. After five repeated donations, 90% of the donors showed total serum proteins values ranging between 6.4 mg/dl and 10.4 mg/dl .

25.8% of the donors in the study group showed values of ionised calcium concentration under 4 mg/dl after ten repeated donations.

Conclusions: Trombocyte count was not significantly changed after the repeated donations by apheresys. Leucocyte count showed no increasing or decreasing tendency during the ten successive donations and regarding lymphocyte count, insignificant differences were found ($p=0.05$).

Total serum proteins mean concentration for the whole group decreased insignificantly after ten repeated donations by apheresys ($p=0.12$).

For none of the donors, no total serum calcium concentration under the minimum standard values were registered after ten repeated donations.

After ten successive donations, the mean values of the ionised calcium concentration on the study group was maintained over minimal standard value.