



Extracorporeal photopheresis (ECP) has demonstrated efficacy as second-line treatment for steroid-refractory (SR) acute graft-versus-host disease (aGVHD). The aim of our study was to analyze whether the amount of ECP-treated cells in patients with SR, aGVHD has an impact on response at 1 month” Worel et al (2018).

Abstract:

BACKGROUND: Extracorporeal photopheresis (ECP) has demonstrated efficacy as second-line treatment for steroid-refractory (SR) acute graft-versus-host disease (aGVHD). The aim of our study was to analyze whether the amount of ECP-treated cells in patients with SR, aGVHD has an impact on response at 1 month.

STUDY DESIGN AND METHODS: Data on white blood cells, lymphocytes, monocytes, mononuclear cells, and neutrophils, including absolute counts and counts per kilogram of body weight in ECP products from patients with aGVHD, were collected. For each cell population, the median dose per single ECP and the cumulative doses collected during the first week and the first month of treatment were compared with the response to ECP.

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RESULTS: In total, 99 patients underwent 1215 ECP procedures. Overall response was defined as a complete response if all signs of aGVHD resolved or a partial response if greater than 50% resolution was reached without other, additional immunosuppression. An overall response was obtained by 75% of patients, including 53% complete responses. Univariate analysis showed a correlation of lymphocytes and mononuclear cells/kg body weight for a single procedure and overall response. In logistic regression analysis, no tested variable had an influence on response. In receiver operating characteristic curve analysis, cutoffs of 8.4×10^6 /kg body weight lymphocytes and 13.9×10^6 /kg body weight mononuclear cells were associated with an overall response to ECP at 1 month with 75% sensitivity.

CONCLUSION: Our results in patients with steroid-refractory aGVHD confirm that response rates to ECP are high and that certain cutoff values for lymphocytes and mononuclear cells/kg body weight in each individual procedure can predict an overall response to ECP at 1 month.

Reference:

Worel, N., Lehner, E., Führer, H., Kalhs, P., Rabitsch, W., Mitterbauer, M., Hopfinger, G. and Greinix, H.T. (2018) Extracorporeal photopheresis as second-line therapy for patients with acute graft-versus-host disease: does the number of cells treated matter? Transfusion. February 15th. .

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