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Titel des Beitrags:
Quality of T-cells after stimulation with leukemia-derived dendritic cells (DC) from patients with acute myeloid leukemia (AML) or myeloid dysplastic syndrome (MDS) is predictive for their leukemia cytotoxic potential.

Abstract:
Myeloid leukemic cells can differentiate into leukemia-derived dendritic cells (DC(leu)), presenting known/unknown leukemic-antigens. Induced anti-leukemic T-cell-responses are variable. To further elicit DC/DC(leu)-induced T-cell-response-patterns we performed (functional)flow-cytometry/fluorolysis-assays before/after mixed lymphocyte cultures (MLC) of matched (allogeneic) donor-T-cells (n=6), T-cells prepared at relapse after stem cell transplantation (n=4) or (autologous) patients’ T-cells (n=7) with blast-containing-mononuclear-cells (’MNC’) or DC(leu)-containing DC (’DC’). Compared to MNC’ DC were better mediators of anti-leukaemic T-cell-activity, although not in every case effective. We could define cut-off proportions of mature DC, DC(leu), proliferating, CD4(+), CD8(+) and non-naive T-cells after MNC’ or DC’-stimulation, that were predictive for an anti-leukemic-activity of stimulated T-cells as well as a response to immunotherapy. Interestingly especially ratios>1 of CD4:CD8 or CD45RO:CD45RA T-cells were predictive for anti-leukemic function after DC-stimulation. In summary the composition and quality of DC and
T-cells after a MLC-stimulating-phase is predictive for a successful ex-vivo and in-vivo anti-leukemic response, especially with respect to proportions of proliferating, CD4(+) and CD45RO(+) T-cells. Successful cytotoxicity and the development of a T-cell-memory after DC-stimulation could be predictive for the clinical course of the disease and may pave the way to develop adoptive immunotherapy, especially for patients at relapse after SCT.