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Cascade primed (CAPRI) immune cells destruct cancer cells *in vitro* and in patients: Dissection of the CAPRI method and results of clinical case series

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The CAPRI therapy is a novel adoptive cell therapy (ACT). It surpasses other ACT methods by its technical simplicity, the efficacy and broad applicability. The priming procedure employs solely peripheral blood monocytic cells (PBMC) of the respective cancer patient without isolation of sub populations. Aquartette of immune cells, namely monocytes, dendritic cells, helper T cells and cytotoxic T cells remain in contact with each other during all activation steps. The cancer-immunogenic information for naïve T cells comes from monocytes. Monocytes need to be activated to display the specific cancer information. For this T cells were activated in the PBMC cultures with OKT3 antibodies to activate the monocytes. However, OKT3/CD3-stimulation induces downregulation of the antigen (αβ)-TCR of the OKT3-stimulated T cells. Therefore, PBMC with naive/unstimulated T cells have to be added. Already after 24h, the priming procedure is finished and yields highly efficient CAPRI cells, probably for each type of cancer. A five-year survival analysis showed that breast cancer patients with distant metastases (M1, N=42), treated with CAPRI cells in an adjuvant fashion, survived on average 53months whereas breast cancer patients from the Munich Tumor center in the same tumor stage without CAPRI cell treatment survived 31 months.Case series with non-metastatic breast cancer or non-small-cell lung cancer (NSCLC) showed similar favorable results. Very remarkable is the maintenance of life quality in the patients.

Biography

Rudolf Wank has focused on problems in immunogenetics and immunology for nearly four decades. After receiving the license to practice medicine in Munich, Germany, he spent five years in the USA as scientist at the University of Madison, Wisconsin and at the Sloan Kettering Cancer Institute. He became Professor of Immunology at the University of Munich and concentrated on the genetics of the immune response. Eight years ago, he established the Immunotherapy Research Center in Munich, which undertakes to combine the treatment of patients with the best of science.

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