**371**

INFUSION OF DONOR LYMPHOCYTES IN LEUKEMIA PATIENTS RELAPSED AFTER BONE MARROW TRANSPLANTATION IS SUCCESSFUL IF T CELLS OF RECIPIENTS ARE OF DONOR ORIGIN

- Elyv van de Wiel-van Keresada, Ludo Dolstra, Simon J.H. van der Zee, N. van de Wall, Robert Maessen, A. van der Ven, Noortje A. van der Zee, E. Kwekkeboom, L. Drenth, J. Ten Kate, and Jan H. van’t Veer.

The investigation of combined therapy effectiveness of 26 patients with hematologic malignancies was carried out. Donor-specific transplantation was carried out by method of direct immunofluorescence of smears - imprints from point of injury and detection of antibody to MHC class I and II antigens by monoclonal antibodies. The T lymphocytes were selected by magnetic beads, the remainder containing T cells was immediately preserved in liquid nitrogen.

**372**

THE RECOMBINANT GAMMA-INTERFERON AND RETROPLACENTAR POLILOBIN IN SYSTEMIC VASCULITIS IMMUNOTHERAPY.

- Y. Chopyak.

Clinical-immunologically 27 systemic vasculitis patients (SV) were observed. In culturall immunologic investigation - their immunocompetent cells sensitivity to gamma-interferon (GI) and retnoplastic poliobin (RP) - was estimated. Complex immunotheraphy GI and RP - was applied to this patient group according to special schemes during one year. The control group made 43 patients with SV, who got traditional glucocorticoid therapy. The immunologic and hemocomagulative monitoring - was carried out in patients during a year. After 4 treatments regimens - hypoglycemic lowering, phagocytosis-membrane and fermentative properties improvement, α-microglobulin level and DR-lymphocytes number increase - was estimated. The immunologic values of dynamic - less then a year period showed, the immunologic and hemocoagulative monitoring - was carried out in patients during 3 months.

**373**

THE COMBINED IMMUNOTHERAPY OF HEMORRHAGIC INJURIES IN PATIENTS WITH HEMORRHAGIC VASCULITIS.


Clinical-immunologically 60 patients with systemic vasculitis and hemorrhagic injuries was carried out. The treatment was applied before and after admission to our clinic, and the patients were treated with a combination of immunosuppressive therapy, immunosuppressive drugs, and vitamin C. The treatment was effective in all cases, and the patients showed a significant improvement in their clinical status.

**374**

ADAPTIVE IMMUNOTHERAPY WITH RECOMBINANT HUMAN IL-2 (HIL-2) AFTER AUTOLOGOUS STEM CELL TRANSPLANTATION (ASCt) FOR HIGH-RISK NEUROBLASTOMA (HR-Neu).


Infusion of donor lymphocytes is increasingly used to treat patients with leukemia relapse after allogeneic bone marrow transplantation. Significant numbers of patients with chronic myeloid leukemia respond to this therapy, usually accompanied by graft-versus-host disease. Only a minority of patients with acute myeloid and no patients with acute lymphoid leukemia respond to donor lymphocyte infusion. Direct correlation of immunosuppression with the absence of graft-versus-host disease suggests that infused lymphocytes are neither reactive to the leukemic cells nor to normal tissue of these patients. In an attempt to answer the question why some patients respond while others do not, we determined the genetic origin of T cells present in 19 relapsed patients at the time of donor lymphocyte infusion. All patients who had T cells of donor origin, attuned complete remission. In contrast, all but two patients with T cells predominantly of recipient origin failed to respond. T cells of responding patients showed cytoxicity in vitro against target cells of recipient origin including leukemia. T cells of nonresponding patients did not show cytoxicity in vitro against target cells of recipient origin. These findings demonstrate that the origin of T cells at the time of relapse is an important prognostic parameter. If T cells are of donor origin, complete remission occurs upon infusion of donor lymphocytes. This led us to hypothesize that autologous T cells of nonresponding patients may destroy infused donor lymphocytes, thus explaining treatment failure.

**375**

INDUCTION OF SPECIFIC CYTOTOXIC T CELLS AGAINST LEUKEMIC CELL LINES USING DENDRITIC CELLS FROM CORD BLOOD CD34+ CELLS.


The induction of specific cytotoxic T cells against leukemic cell lines using dendritic cells from cord blood CD34+ cells was studied. The CD34+ cells were isolated from cord blood by positive selection and cultured with GM-CSF and TNF-α. The dendritic cells were then pulsed with leukemia-specific antigens and used to stimulate autologous T cells. The resulting T cells were shown to be specific for the leukemia cell lines, indicating the potential for this approach to be used in clinical settings.

**376**

CELL LINES USING DENDRITIC CELLS FROM CORD BLOOD CD34+ CELLS.

- Fujii S*, Fujimoto K*, Kawakita M, Second Department of Internal Medicine, Kumamoto University School of Medicine, Kumamoto, Japan.

Dendritic cell (DC) is the most powerful antigen-presenting cells for immune responses. Recently, methods have been established for in vitro propagation of human DCs from bone marrow. Thus expanded DCs can afford promise of improving the efficacy of immunotherapy for cancers. It is well known that cord blood (CB) cells contain naive T cells and a small number of cytotoxic T cell precursors. Successful transplantation of HLA-mismatched CB cells without severe GVHD may support this fact. To develop an unique anti-tumor immunotherapy, we have induced tumor-specific cytotoxic T cells from naive CB T cells using autologous DCs. After CD34+ cells were isolated from CB with immuno-magnetic beads, the remainder containing T cells was immediately preserved in liquid nitrogen. CD34+ cells were cultured with GM-CSF and TNF-α for 44 days, resulting in marked expansion of DCs. Thereafter, the expanded DCs were stimulated with autologous leukemia cell lines, and the resulting T cells were analyzed for their specificity against leukemic cells. The results showed that the expanded DCs were able to induce tumor-specific cytotoxic T cells from naive CB T cells, which were specific for leukemia cell lines. This approach may be useful for tumor vaccine induction, i.e., naive T cells could be activated by DCs pulsed with tumor cells or tumor-specific antigens, thus generating tumor-specific cytotoxic T cells. The approach may be useful in therapy of hematological malignancies, in which one could expect not only a minimal GVHD but also specific GVIL reactions.