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The influence of CyA on in vivo migration of lymphocytes

Attenuation of lymphocate recruitment in organ and tissue allografts in recipients treated with cyclosporin A (CyA), compared with nontreated recipients, may be due to decreased IL-2 production and a lower level of chemoattraction, inhibition of in-graft proliferation, and either decreased mobilization and release from lymphoid organs, and/or changes in migratory properties. The concept of slow mobilization and release, and impaired migration have not been studied in sufficient detail. Our previous pilot studies indicated that CyA changes the recirculation pattern of lymphocytes.

In my studies I investigated the distribution pattern of (a) WIS thoracic duct lymphocytes (TDL) obtained from donors treated with 10 mg/kg b.w., i.v., for 7 days and infused into naive syngeneic rats, (b) TDL from naive WIS injected into GyA-treated syngeneic recipients, (c) both donors and recipients of TDL treated with CyA and (d) TDL from CyA-treated donors into syngeneic (WIS) or allogeneic (AUG) heart graft recipients. Controls were performed with TDL from donors treated with Cremofor ElGer. TDL were labelled with ^{51}Cr and radioactivity was measured 6 h after injection.

The results showed that CyA-treated TDL migrated away from blood and accumulated in spleen, mesenteric lymph nodes, and bone marrow, and remained there longer than in controls. They accumulated to a lesser extent in both the allo- and syngeneic heart grafts, compared with nontreated TDL, but more than in the native hearts.

Further studies are being carried out to elucidate the mechanism of direction changes and slowing of lymphocytes.

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CIM for monitoring of transplant patients

I was studied cyto-immunological monitoring (CIM) and fine needle aspiration cytology (FNAC) at the laboratory of Immunology (Institute of Surgical Research, Klinikum Grosshadern) from 15 September to 15 October 1992. CIM is a noninvasive and nontraumatic method for diagnosing inflammatory events in the postoperative period of heart transplantation. The immunological grading of a rejection and the indication for appropriate therapy are based on microscopic differentiation of mononuclear cells in peripheral blood. FNAC allows the early diagnosis of different complications after kidney and liver transplantation, and monitoring of immunosuppression during acute rejection. I followed eight patients after heart and two after heart-lung transplantation, three after liver transplantation, and five after kidney transplantation. I learned to discriminate between different complications (acute rejection, infections) and to recognize the signs of drug toxicity.