ELITE – KFO 243 Project

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DFG Deutsche Forschungsgemeinschaft

Early Immunological Determinants of Late Transplant Outcome

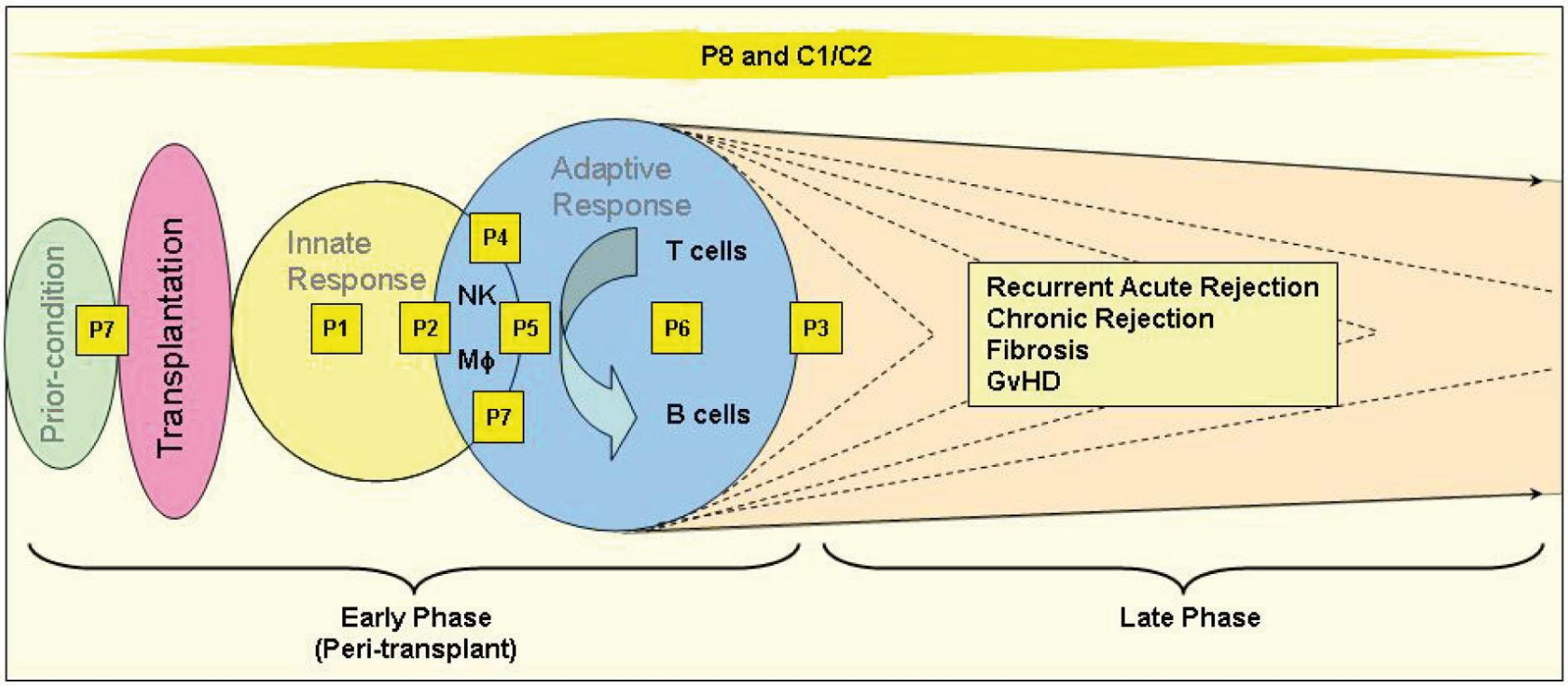
2010 - 2016

DESCRIPTION: KFO 243 is a 6-year project funded from 2010 to 2016 by the Deutsche Forschungsgemeinschaft (DFG) to investigate early molecular and cellular immunological events that determine the success of transplantation. We intend to use the integrative knowledge obtained from our various interdisciplinary research groups to design novel therapeutic approaches that can be applied clinically to reduce late transplant complication and achieve long-term success.

HISTORY: Transplantation Medicine and Immuno-pathology/therapy are two primary strategic areas of interest in our Medical Faculty. Thus we have assembled an interdisciplinary research group involving both laboratory scientists and clinicians within the University Hospital Regensburg, which is devoted to the aim of translating innovative basic science concepts into the clinical transplant setting.

OBJECTIVE: The aim of our clinical research group (Klinische Forschergruppe, "KFO 243") is to understand how early immunologic factors determine long-term allograft success. Research from our various workgroups will be directed towards two principal immunologic aspects that are likely to affect transplant outcome, namely recipient innate and adaptive immune responses. The study of both the innate and cellular immune response within our KFO is expected to reveal new insights into which immunological factors are critical in forming favourable, versus poor, allogeneic transplant outcomes. By understanding these complex early events more fully, we hope to develop new therapeutic strategies to control and monitor pathologic posttransplant alloreactivity, thereby improving long-term transplant outcome.

Nr.	Project Title	Principal Investigators	Dept./Clinic Institute/Division
P1	The role of β-defensins in allogeneic transplantation	Thomas Hehlgans Ernst Holler	Immunology Internal Med III, Hematology & Oncology
P2	Interplay between receptors of innate immunity and vitamin D3 for the induction of alloreactions through antigen-presenting cells	Ernst Holler Marina Kreutz Sigrid Karrer	Internal Med III, Hematology & Oncology Dermatology
P3	Role of IL-13 and TGF-β in the development of chronic rejection in solid organ transplantation	Stefan Fichtner-Feigl	Surgery
P4	Basophils as potential modulators of humoral and cellular allo-immune responses	Matthias Mack	Nephrology
P5	Role of natural killer cells in transplantation tolerance and rejection	Alexander Krömer Elke Eggenhofer Edward K. Geissler	Surgery Experimental Surgery
P6	Humoral immune reconstitution after allogeneic stem cell transplantation	Matthias Edinger	Internal Med III, Hematology & Oncology
P8	**First Funding Period (01.08.2010 – 28.08.2013)** Comparing the early immunological responses of liver transplant recipients treated under a bottom-up immunosuppressive regimen utilising either CsA or Everolimus	James Hutchinson Andreas Schnitzbauer Hans J. Schlitt	Experimental Surgery Surgery
C1	**First Funding Period (01.08.2010 – 28.08.2013)** Central provision of organ transplant models and flow cytometry facilities	James A. Hutchinson Gudrun Köhl Bernhard Banas	Experimental Surgery Nephrology
C2	**Coordination and Administration**	Edward K. Geissler, **Coordinator** Hans J. Schlitt, **Speaker**	Experimental Surgery Surgery



PROJECT INTEGRATION: KFO 243 is centered on the view that long-term immunological destruction in solid organ transplantation, and in prevailing graft-versus-host reactions in stem cell transplantation, are the inescapable consequence of a chain of events initiated in the early posttransplant period. The early immunological determinants of late transplant outcome are many; therefore, an integrative understanding of the pathways by which early responses to transplants feed forward into late acute or chronic rejection and graft-versus-host disease (GvHD) processes is needed. KFO research projects focus on the most important junctures between early posttransplant triggers and the processes of late graft damage by studying selected early innate and cellular interactions that could potentially be monitored or harnessed therapeutically to improve late transplant outcome.