RT8BKT : REGULATION OF TEMRA CD8 T CELLS BY B CELL SUBSETS IN KIDNEY TRANSPLANTION (N. DEGAUQUE)

The immunological risk of kidney graft rejection can be assessed by analyzing the frequency of effector memory CD8 T cells expressing CD45RA (TEMRA) and GZMb regulatory B cells (GZMb Breg). Accumulation of TEMRA CD8 is associated with a higher risk of kidney graft loss, whereas accumulation of GZMb Breg is associated with a lower immunological risk. We recently found that humoral rejection was associated with an accumulation in the periphery and in the kidney graft of cytolytic TEMRA CD8 T cells, and that the TEMRA CD8 T cells from the kidney transplant patients (KT) exhibited enhanced migratory properties compared to the EM CD8 T cells, while no difference was found between the TEMRA and EM CD8 T cells from the healthy volunteers. The positive or negative regulation of TEMRA CD8 T cells by B cells has never been studied, either in healthy individuals or in KT patients. In this project, we want to investigate the contribution of B cell subsets (activated/regulatory) to the accumulation of TEMRA CD8 T cells in KT with humoral rejection by combined analysis of peripheral blood B/TCD8 and *in situ* characterization of immune cell infiltration using next-generation highdimensional histopathology. The overall aims of the project are to define (1) the regulation of the migration of TEMRA CD8 by effector and regulatory B cells, (2) the regulation of the effector functions of TEMRA CD8 by effector and regulatory B cells, and (3) to map the CD8/B cell immune social network in kidney biopsies from KT patients. The knowledge generated by the project could improve not only our understanding of humoral rejection but also that of patients with auto-immune diseases.