

UNEXPECTED OUTCOME FOLLOWING KIDNEY TRANSPLANTATION FROM HLA-IDENTICAL SIBLING

Carrie Grafft, Hatem Amer, Mayo Clinic Rochester, MN

Introduction: Transplantation from an (human lymphocyte antigen) HLA identical sibling often has a favorable long-term outcome. Reports of uncommon donor specific antibodies leading to allograft dysfunction months to years after transplant exist. We report a case of early allograft dysfunction thought to result from antibody-mediated rejection after kidney transplant from HLA-identical sibling, but no donor specific antibody was found. Case report: A 29 year old male received a kidney transplant from his HLA identical sister and experienced delayed graft function. One week after transplant, an allograft biopsy suggested antibody-mediated rejection as peritubular capillary inflammation, and strongly positive peritubular C4d staining was found. Extensive testing for donor specific antibody was unrevealing. Prior to transplant panel reactive antibody (PRA) elevated, but no donor specific antibody was found and flow-cytometric crossmatch was negative. Induction therapy was alemtuzumab followed by maintenance with steroids, tacrolimus, and mycophenolate. Treatment with pulse steroids, plasma exchange followed by IVIG, and rituximab was used for rejection. At one, two, and four months after transplant, allograft biopsies showed improvement but ongoing signs of rejection. Treatment for rejection was repeated, but no donor specific antibody was ever detected. Five months after transplant, allograft biopsy findings and kidney function improved. His creatinine eventually stabilized at 2.3mg/dl (MDRD Cr clearance 36 mL/min/1.73 m²). Discussion: Although we did not find a donor specific antibody, we feel that our patient had an early antibody mediated rejection of clinical significance. An antibody toward a minor histocompatibility antigen (mHA) may be responsible. Clinically relevant immune responses to mHA have not been well defined in transplant. Research to identify patients at risk for rejection from mHA may be important for organ allocation, long-term surveillance after transplant, and immunosuppression adjustment to prevent future rejection.