ABO incompatible kidney transplantation

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Serious organ shortage necessates alternative ways of organ acquisition such as ABO incompatible (ABO-I) graft. Earlier results of ABO-I kidney transplantation (KT), however, is less than satisfactory and during 1990s, it almost exclusively had been performed in Japan, where brain death organs were not available in that period. With the advent of tacrolimus and mycophenolate, Japanese groups reported improved patient and graft outcome of ABO-I KT, which was comparable with ABO compatible, and several U.S. and European centers launched their ABO-I KT programs in early 2000s, with excellent initial results. We also started ABO-I program in 2007 with encouraging early result. Removal of ABO antibody by plasmapheresis or immunoadsorption before transplantation, and in some centers also in early posttransplant period, is an essential part of ABO-I protocol. In an effort to reduce the production of ABO antibody, splenectomy or recently rituximab is used. Rituximab has equivalent or possibly superior efficacy to splenectomy, without life-long morbidity associated with splenic removal. ABO antibody mediated acute rejection occurs mostly intwo to three weeks posttransplantation, and after this period, ABO associated humoral rejections usually do not develop, in spite of the recovery of blood group antibody in serum and persistence of blood group antigens on vascular endothelium of graft, byyet undefined mechanism, accomodation.