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Role of complement binding assay

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Donor-specific anti-HLA antibodies (DSAs) are the key initiator of antibody-mediated rejection and the dominant cause of poor allograft outcome in kidney transplantation. The introduction of single-antigen bead assay has enabled detection of the presence of DSA and improved the immunologic risk assessment of kidney transplant recipients. However, not all DSAs are harmful to the allograft. In recent years, complement binding assays have been developed to assess the ability of DSAs to activate the complement cascade, with the hypothesis that complement binding DSAs are more pathogenic to the allograft than non-complement binding DSAs. In this session, we will review the technical aspects of complement dependent assays and studies that evaluated these assays to predict transplant outcomes. Through the interpretation of conflicting results, the current role and utility of complement binding assays in kidney transplantation will be discussed.

Keywords: complement binding assay , kidney transplantation , rejection , allograft survival , donor-specific antibody