Top Ten Things To Know
Antibody-Mediated Rejection in Cardiac Transplantation

1. Accumulating evidence suggests that antibody-mediated rejection (AMR) covers a spectrum of immunologic injury from sub-clinical, histologic, immunologic, or serologic findings to overt AMR with hemodynamic compromise.

2. Varied diagnostic criteria and differences in screening frequency inhibit determination of the true incidence of AMR – the reported incidence of AMR ranges from 3% to 85%.

3. As the criteria for diagnosis of AMR have evolved and surveillance has become more common, the recognition of AMR as a cause of graft dysfunction and graft vasculopathy among pediatric patients has also increased.

4. Potential risk factors for AMR following cardiac transplantation may include elevated panel reactive anti-HLA antibodies (PRAs), cytomegalovirus (CMV) seropositivity, prior mechanical circulatory support (MCS), prior treatment with muromonab-CD3, and history of re-transplantation.

5. Clinical symptoms of AMR include those of right and left ventricular systolic and diastolic dysfunction, such as dyspnea, elevated jugular venous pressure, edema, and abdominal distention.

6. While endomyocardial biopsy remains the standard for diagnosing AMR, multiple imagine modalities – such as echocardiogram-derived Doppler tissue imaging and cardiac magnetic resonance imaging (CMR) – have been considered for the detection of allograft rejection.

7. There have been no large, randomized trials to study treatments for AMR in patients with heart transplants; guidelines for therapy have been suggested, but are based on consensus.

8. Therapies for patients with heart transplants have often been adapted from those used for renal transplantation. The underlying mechanisms for these treatments include: (a) suppression of T-cell response, (b) elimination of circulating antibodies, (c) inhibition of residual antibodies, (d) suppression or depletion of B-cells and/or plasma cells, and (e) inhibition of complement.

9. Patients with severe pathological AMR are at high risk and should receive treatment. Management strategies for milder forms of pathologic AMR (pAMR) are less clear; the benefit of treating subclinical AMR has not been established.

10. Clinical trials are needed to evaluate newer therapies based on experiences in renal transplantation, rheumatologic diseases, and oncology; desensitization protocols; and combination therapies.