SDC, Materials and Methods

Recipient management protocols

Standard immunosuppression in our program consists of tacrolimus, mycophenolate mofetil and prednisone. Target CNI levels are typically 12-15ng/ml for the first 3 months, 10-12ng/ml for the first year and 8-10ng/ml thereafter. During this period, protocol induction immune suppression consisted of antithymocyte globulin. We perform 1 routine bronchoscopy at 3 months posttransplant without surveillance biopsies, and all other bronchoscopies are done for clinical indication. We measure lung function every 2 weeks for the first 3 months, followed by every 1-3 months for the first 2 years. Patients are reviewed with lung function every 6 months to 1 year for life. Acute rejection is treated in cases with concerns about lung function with positive transbronchial biopsy histology (ISHLT grade A1 or higher, B1 or higher) and in those with no alternative explanation. Rejection therapy consists of high dose methylprednisolone (typically 500-1000mg) for 3 days followed by prednisone taper starting at 0.5mg/kg. Antithymocyte globulin may be used for refractory acute rejection. Over the study period, we were not performing routine posttransplant HLA antibody measurements. Antibody-mediated rejection (AMR) is treated in the setting of donor specific antibody (DSA) and graft dysfunction without another explanation, and with plasmapheresis, IVIg and rituximab. We use routine antifungal prophylaxis with voriconazole for 3 months. Viral prophylaxis consisted of 6 months to 1 year of valganciclovir for CMV mismatched patients (donor seropositive, recipient seronegative), 3 months for seropositive recipients and acyclovir for donor/recipient seronegative patients. All patients undergo pulmonary rehabilitation for a minimum of 4 weeks prior to transplant and 3 months after transplant. Follow up with our program is lifelong.

Donor matching and Sizing

Donor adequacy is assessed on the basis of oxygenation, aiming for oxygen challenge of > 300mmHg, a clear chest x-ray and/or computed tomography, clear bronchoscopy and absence of chest trauma. Exceptions to these criteria however are permitted on a case by case basis. Donors are sized to recipients typically within a 10cm height difference, depending on recipient disease. Hyperinflated recipients with COPD or obstructive lung disease are typically size-matched or receive organs from taller donors, while patients with fibrotic lung disease and restricted chests typically receive organs from shorter donors.