Safety and early outcomes using a different induction therapy protocol in low and high-risk recipients in paediatric hearts transplantation

Vall d’Hebron University Hospital. Barcelona. Spain

BACKGROUND AND OBJECTIVES
Advances in immunosuppressive therapy over the past two decades have contributed to improve the outcome of paediatric cardiac transplantation (HTx). Use of induction therapy, basiliximab (Ba) or antithymocyte globulin (ATG), has increased significantly in last years.

The aim of this study is to determine whether pre-operative administration of a different induction therapy is beneficial in preventing early heart allograft rejection.

METHODS
The notes of 17 children undergoing HTx at our center from Dec-08 to Dec-12 were retrospectively reviewed. Of the 17 patients, 8 received Ba and 9 ATG as an induction therapy. From Dec-08 to Oct-10 Ba was the unique treatment used during induction. Since Oct-10 ATG was used in children with ventricular assistance pre-transplantation or/ and a number of cardiac surgeries greater than one (considered high-risk recipients). Maintenance immunosuppression included tacrolimus, mycophenolate mofetil, and steroids.

RESULTS
The median age at transplant was 21 months (range 4 months to 16 years) and median follow-up was 18 months (range 4 to 49 months). Five were children who had prior palliation for congenital heart disease, 12 affected by cardiomyopathy and 1 re-HTx. Ventricular assistance pre-transplantation was used in 10 patients (58%). Of the 7 patients without ventricular assistance Ba induction was used in 6. Rejection during follow-up was diagnosed in 8 patients (Grade 2R cellular rejection in 5 and antibody-mediated rejection in 3). There were 2 deaths post-HTx (11 days, 1,5 months) due to antibody-mediated rejection, both with Ba induction. Freedom from Grade 2R or greater rejection or antibody-mediated rejection in the first 2 years was slightly greater in ATG group than in the Ba group. Post-transplant survival was 94%, 88% and 82% at 1 month, 12 and 24 months respectively.

CONCLUSIONS
An immunosuppression protocol consisting of ATG induction appears to achieve acceptable rejection rates during the first 2 years post-transplant in high-risks paediatric heart transplant recipients.