Poster

[P26-5] P26-5: Immunosuppressive drugs (4): Individualized dosage adjustment

Chair: Kohshi Nishiguchi, Japan

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[P26-5-6] Survival time to biopsy-proven acute rejection in pediatric liver transplant patients

Natalia Riva[1], Paulo Caceres Guido[2], Debora Chan[3], Jean-Baptiste Woillard[4], Jefferson Buendia[5], Nieves Licciardone[6], Pierre Marquet[7], Marcelo Dip[8], Oscar Imventarza[9], Paula Schaiquevich[10] (1.Hospital de Pediatria JP Garrahan, 2.Hospital de Pediatria JP Garrahan, 3.Hospital de Pediatria JP Garrahan, 4.CHU Limoges, 5.Antioquia University, 6.Hospital de Pediatria JP Garrahan, 7.CHU Limoges, 8.Hospital de Pediatria JP Garrahan, 9.Hospital de Pediatria JP Garrahan, 10.Hospital de Pediatria JP Garrahan)

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Background

Despite many advances in pediatric liver transplantation, surgical procedures and optimization of immunosuppressive therapies, acute rejection still occur. The aim of this study was to identify peritransplant predictors of acute rejection episodes after pediatric liver transplantation that may improve decisions concerning early graft outcomes.

Methods

Patients who received a liver transplantation in the period 2010-2012 were included. Pre and post-transplant variables were collected from a retrospective data base including: demographic, clinical and laboratory parameters, and tacrolimus exposure (trough concentrations, C0) over a follow-up of 2 years. Tacrolimus C0 variability was calculated usingdeviousness defined as the ratio between the lengths of the observed valuesand the straight line that joins the initial and final observationobtained from the collected C0. Allelic discrimination assays were used for genotyping polymorphisms in CYP3A5 in donors and recipients.Acute rejection (AR) - free survival rateswere calculated using the Kaplan-Meier method. Risk factors were identified using a multivariate Cox regression model.

Results

In total 72 patients (63% girls) were studied with a mean age and weight of 5.3 years (SD5.4) and 21.0 kg (SD18.9), respectively. All patients received tacrolimus and 72% received basiliximab as induction therapy. On multivariate analysis, age, graft type (partial vs. whole), donor source (deceased vs. living donor) or induction therapy were not associated with AR. A deviousness value higher than 1.10 was associated with 80% increased risk of AR (HR, 1.80, 95%CI, 1.01-3.22, $p<0.05$), while steroid use decreased by44% the risk of AR (HR, 0.56, 95%CI, 0.31-0.99, $p<0.05$).

Conclusions

The only factors that were associated with AR were steroids, as a protective factor against AR, and variability in tacrolimus C0 expressed as deviousness, which increases the risk of having an AR episode. Our results are consistent with those reported in the literature. Validation studies should be performed in a separate cohort of liver transplant patients.