Poster

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

Chair: Kohshi Nishiguchi, Japan

Tue. Sep 26, 2017 12:30 PM - 1:30 PM Annex Hall (1F)

(Tue. Sep 26, 2017 12:30 PM - 1:30 PM Annex Hall)

[P26-5-9] Relationship between tacrolimus exposure and adverse effects over time in renal transplantation

Caroline Monchaud[1], Claire Villeneuve[2], Jean-Baptiste Woillard[3], Pierre Marquet[4] (1.CHU Limoges, Univ Limoges, 2.CHU Limoges, Univ Limoges, 3.CHU Limoges, Univ Limoges, 4.CHU Limoges, Univ Limoges)

Keywords: Tacrolimus, Exposure, Adverse effects, Adherence

Background

In renal transplantation, high exposure to tacrolimus has been reported to increase the risk of toxicity, but the relationship between exposure to tacrolimus over time and the occurrence of adverse effects has never been explored. The objective of this study was to explore the relationship between tacrolimus exposure and adverse effects over time over the first year of renal transplantation.

Methods

Tacrolimus exposure, adherence to treatment and adverse effects reported by clinicians were collected in 271 renal transplant patients of the EPIGREN cohort followed-up for at least one year after transplantation. Tacrolimus exposure was estimated by means of pre-dose concentration (C_0). Adherence was evaluated through the MMAS-4 questionnaire. K-means for longitudinal data were used to identify tacrolimus exposure clusters. Pearson chi-square tests, one way Anova and t-tests were used to study the relationships between covariates and clusters.

Results

Two clusters of patients based on tacrolimus exposure over time were identified: exposure was lower (mean± SD: 8.6±3.3 g/L, i.e. within the generally accepted therapeutic target) in cluster A (80.4% of the patients) and higher (10.7±6.4 g/L) in cluster B. There was a higher proportion of patients with infection (81 vs. 52%, p=0.0004) and with muscle weakness (74 vs. 53%, p=0.0099) in cluster B than in cluster A. No association was found between tacrolimus exposure over time and age, sex and adherence to treatment.

Conclusions

High tacrolimus exposure over time was significantly associated with higher rates of infection and muscle weakness. While the former finding is rather confirmatory, muscle weakness linked with high exposure to tacrolimus may not be so well appreciated.