ALTERATIONS OF T LYMPHOCYTES SUBPOPULATIONS POST SUCCESSFUL RENAL TRANSPLANTATION

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Adaptive immune system is largely affected in chronic kidney disease, with T lymphocytes phenotypic and functional alterations.

Successful Renal Transplantation (RT) is expected to reinstate immune function and phenotypic alterations of lymphocytes. The present work aims to prospectively assess these alterations after RT, compare differences between deceased (DR) and living (LR) donor recipients while associating them with Cold Ischemic Time and eGFR

One hundred six RTRs were included in the study, (74%) DR and (26%) LD. Lymphocytes, CD4, CD8, CD4CD28null, CD8CD28null, CD16+CD56+ (NK) and CD4+CD25+FoXP3+ (Tregs) were evaluated at peripheral blood, by flow cytometry, pre- and 3, 6, 12 months post RT (T0, T3, T6, T12, respectively).

During follow-up, eGFR showed no significant difference between DR and LR at any time. Nevertheless, at T0, T3, T6, T12, lymphocytes significantly increased in LR compared to DR, p=0.001, p<0.0001, p=0.002, p<0.0001, similarly CD4, p=0.001, p<0.0001, p=0.001, p<0.0001, and CD8, p=0 .002, p<0.0001, p=0.005, p=0.006, respectively. Tregs increased at T0, T3, T6, not at T12, p<0.0001, p<0.0001, p=0.001, p=0.1, respectively. At this point, Tregs increased in RTRs with eGFR>50ml/min/1.73 m^2, 20.3(9.3) vs. 27.2(18.6), p=0.03. CD4CD28null, CD8CD28null cells did not change during follow -up, with no difference between two groups at any time point yet with significant NK cells decrease.

Immune profile was improved in both groups, DRs and LRs with a significantly better effect in LRs, although elimination of CD28 molecule could not be restored. Interestingly, Tregs were associated with renal function and Cold Ischemic Time one year following RT.