T LYMPHOCYTE SUBSETS IN LONG-TERM KIDNEY TRANSPLANT SURVIVORS

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Kidney transplant recipients who have survived more than 20 years with a functioning graft are considered long-term survivors after kidney transplantation. However, mortality with functioning graft is increased in these patients due to cardiovascular diseases and cancer in particular. CD28null T lymphocytes (CD3CD28null) are associated with cardiovascular diseases and T regulatory lymphocytes (Tregs), while crucial in the induction of tolerance, may also inhibit antitumor immune responses.

In this study, we investigated T lymphocyte subsets in long-term kidney survivors.

Flow cytometry analysis was performed on 31 long-term kidney recipients who retained graft function for more than 20 years. Specific T lymphocyte subtypes studied were CD4CD28null, CD8CD28null, and CD4CD25FoxP3 (Tregs). We performed the same analysis on 31 kidney recipients one year after kidney transplantation, matched for age and eGFR, who served as a control group.

Long-term kidney recipients (53±10 years old) maintained graft function for a median of 25 years, while their estimated GFR was 53.2±20.3 ml/min/1.73m2 . In comparison with one year kidney recipients, long-term patients had increased CD4 T lymphocytes, both in percentage [51.5(17.4) vs 42.9(18.8) %, p=0.013) and absolute cell number [1200(801) vs 535(329) cells/μl, p<0.001]. The CD3CD28null cells/μl were increased [402(441) vs 236(344), p=0.049] while Tregs almost doubled [41(49) vs 21(15), p<0.001] in long-term patients.

In long-term kidney survivors, alterations observed in T cell subpopulations may render these patients more susceptible to specific common risk factors for morbidity and mortality, independent of their graft function.