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CD25+ Tregs are associated with cardiac remodeling and prognosis in older patients with chronic kidney disease

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Objectives : Regulatory T cells (Tregs) are found to be associated with adverse cardiac remodeling. CD69+ T cells exerts immunoregulation function. In this study, we investigated the correlation of CD25+ Tregs and CD69+ T cells with cardiac remodeling and prognosis in older chronic kidney disease (CKD) patients.

Methods : A retrospective study is comprised of 288 patients (88 non-CKD patients and 200 CKD patients). CD25+ Tregs and CD69+ T cells were identified by flow cytometry. Correlation of T cells subsets with clinical data and prognosis in older CKD patients were analyzed.

Results : A total of 288 patients (mean age 82.10 ± 5.88) were recruited. CD4+CD25+ cells were found to be negatively correlated with pro-brain natriuretic peptide (pro-BNP) ($P < 0.05$), interventricular septum (IVS) ($P < 0.05$), left ventricle posterior wall (LVPW) ($P < 0.01$) and relative wall thickness (RWT) ($P < 0.05$). Similarly, pro-BNP ($P < 0.05$), IVS ($P < 0.05$) and LVPW ($P < 0.05$) were negatively correlated with CD4+CD69+ cells and CD8+CD69+ cells were negatively correlated with LVPW ($P < 0.05$), left ventricle end-diastolic dimension (LVDD) ($P < 0.05$) and left ventricular mass (LVM) ($P < 0.01$). Older CKD patients with higher levels of CD4+CD25+ cells manifested lower values of hypertrophy-related index. Kaplan-Meier survival showed patients with higher levels of CD4+CD25+ or CD4+CD69+ cells exhibited better survival in CKD groups ($P < 0.05$).

Conclusions : Our results demonstrated CD25+ Tregs were negatively correlated with left ventricular hypertrophy-related echocardiographic parameters in older CKD patients and better survival was observed in CKD patients with higher levels of CD4+CD25+ cells, which indicated CD25+ Tregs might improve cardiac remodeling and prognosis in older CKD patients.

Figure 1.jpg

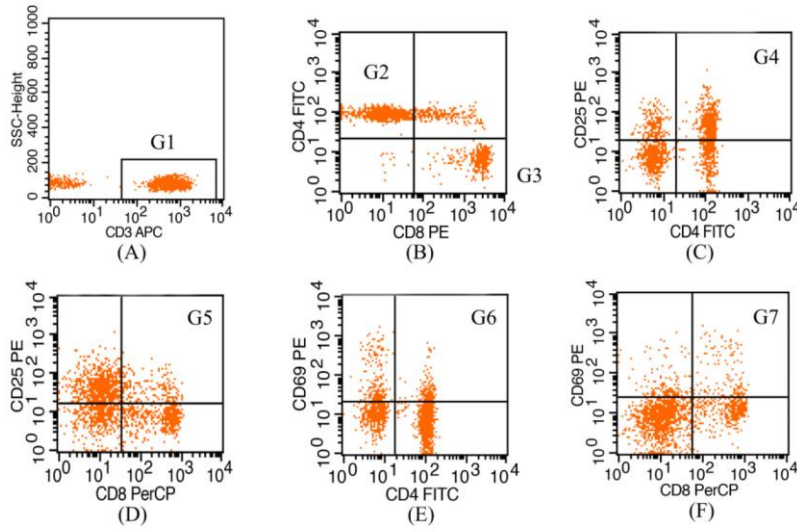


Figure 1.jpg

