Utility of CD127 combined with FOXP3 for identification of operational tolerance after liver transplantation

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Abstract:

Loss of cell surface expression of CD127 on CD4+ CD25++ regulatory T-cells (Tregs) may be a useful marker to efficiently isolate Tregs. As FOXP3 was specifically used to identify Tregs, combining these two markers could give better identification for patient with operational tolerance (OT) after liver transplantation. To testify this mixed lymphocyte reaction (MLR), the function of circulating CD4+ CD25++ CD127dim cells (CD127dim cells) was examined in immunosuppression (IS)-free pediatric recipients after liver transplantation (LTx) (group operational tolerance: OT) (Gr-tol n = 25) compared to recipients who could not stop IS due to clinically overt rejection (group intolerance) (Gr-intol n = 18), recipients who were weaning IS (Gr-weaning n = 11) and age-matched healthy volunteers (Gr-vol n = 11). In addition, the frequencies of CD127dim cells vs CD4+ CD25++ CD127dimFOXP3+ (CD127dimFOXP3+) cells were compared in these four groups by FACS analyses. Our results showed that The proliferation of CD4 cells to donor antigens was reduced compared to third-party antigens only in Gr-tol (P = 0.022) but not in other groups (P = NS). Depletion of CD127dim cells resulted in a donor antigen-specific abrogation of this MLR hyporesponsiveness in Gr-tol (P

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