Advances in Basic & Translational Research II

The roles of graft-resident donor macrophages on regulating transplant outcome

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The shift of emphasis from short-term to long-term graft outcomes has led to renewed interests in how the innate immune cells regulate transplant survival, an area that is traditionally dominated by T cells in the adaptive system. This shift is driven largely by the limited efficacy of current immunosuppression protocols, which primarily target T cells, in preventing chronic graft loss, as well as by the rapid advance of basic sciences in the realm of innate immunity. In fact, the innate immune cells have emerged as key players in the allograft response in various models, contributing to both graft rejection and graft acceptance. This presentation will focus on the macrophages, highlighting their diversity, plasticity and emerging features in transplant models, as well as recent developments in our studies of diverse subsets of macrophages. We will also discuss challenges, unsolved questions, and emerging approaches in therapeutically modulating macrophages in further improvement of transplant outcomes.