Immunotherapy for Multiple Myeloma

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Multiple Myeloma is a disorder of terminally differentiated plasma cells, characterized by immune dysfunction, deregulated signaling within the bone marrow stromal compartment, and a microenvironment that fosters immunosuppression. Immunomodulatory techniques, such as allogeneic hematopoietic stem cell transplant (allo-HCT) and donor lymphocyte infusion (DLI), demonstrate long-term disease control via manipulation of the immunologic milieu. However, allo-HCT is associated with numerous toxicities including infectious complications and graft versus host effect and is suitable only for younger patients with a matched related or unrelated donor. Novel agent and cellular-based therapies aim to restore the balance of humoral and adaptive immunity without the morbidity of allo-HCT and DLI. Thus, the use of immunomodulatory techniques in multiple myeloma, including monoclonal antibodies, vaccine therapy, checkpoint inhibitors, autologous T cells, and engineered T cells is increasingly applied and will be discussed in the presentation.