Application of adoptive cell therapy in hepatocellular carcinoma

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Abstract

Hepatocellular carcinoma has been a serious threat to human life and health, and there is an urgent need for new treatments to prolong the overall survival time of patients. The liver plays an immunomodulatory function due to its unique physiological structural characteristics; therefore, following surgical resection and radiotherapy, immunotherapeutic options have shown great potential in the treatment of hepatocellular carcinoma in recent years, and adoptive cellular immunotherapy is developing rapidly in the treatment of hepatocellular carcinoma. In this review we summarize the latest research on adoptive cell therapy for hepatocellular carcinoma, focusing on chimeric antigen receptor (CAR) T cells and T cell receptor-engineered (TCR) T cells, and then briefly discuss tumor infiltrating lymphocytes (TILs), natural killer (NK) cells and cytokine-induced killer cells (CIKs). The aim is to provide readers with a comprehensive understanding of the current status of HCC adoptive cellular immunotherapy and new therapeutic strategies being developed, in the hope of providing new ideas for the clinical management of hepatocellular carcinoma.

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