

Abstract

Dendritic cells (DC) of hematopoietic origin can be distinguished into cells originating from the myeloid (mDC) or lymphoid lineage. DCs of both branches are able to uptake the antigens, present their samples to T-lymphocytes and polarize the immune response. Lymphoid line DCs are specialized in fighting viruses and they are an important source of interferon alpha. MDCs, which engage antigens as one of the first cells, play an important role in allergies, which are a current problem. Allergy is defined as an inadequate immune response to environmentally nonharmful antigens, and asthma, allergic rhinitis, atopic dermatitis and food allergy are among the most common allergic diseases. This work focuses on the role of mDC in the pathogenesis of allergic diseases and their possible use in treatment. Furthermore, this paper describes the differences between healthy and allergic individuals in terms of functional changes of mDC and differences between mature and immature immune system.

Key words: dendritic cells, allergic diseases, cytokines, newborn immune system