Myeloid-Derived Suppressor Cells and Costimulatory Molecules in Children With Allergic Rhinitis

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Abstract:

Allergic rhinitis (AR) is the most common allergic disorder of the airway. It is an allergic inflammation of the mucous membranes lining the nasal cavity.1,2 AR is a type I allergic disease of the nasal mucosa, characterized by watery rhinorrhea, repetitive paroxysmal sneezing, and nasal blockage. AR often shares the common risk factors of bronchial asthma, especially atopy.1,2 Genetic and environmental risk factors are involved in the pathogenesis of AR; however, the exact etiology remains to be identified.3 Currently, AR is a major health problem affecting 10% to 40% of children globally, which has a great influence on patients’ sleep and quality of life and can affect school achievement as well as increase the medical costs.2,3 T-lymphocytes are among the main factors that control and organize immune responses in allergic diseases. T-helper (Th)-1 T-cells release mainly interferon γ and interleukin (IL)-2 and are involved in the delayed hypersensitivity immune reactions, and Th2 T-cells release predominantly IL-4 and IL-5 and are predominantly involved in IgE-mediated allergic inflammation.

Keywords:

allergic rhinitis, children, CD28, CD86, myeloid-derived suppressor cells

Published In:

Annals of Otology, Rhinology & Laryngology, NULL, NULL