

引言：Recent Advance in IgE and Anti-IgE for Internal Medicine Doctors: Past, Present, and Future

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The role of immunoglobulin E (IgE) in allergic reaction has been well-known for decades. Aside from allergic reactions, IgE appears to have no significant involvement in other physiological pathways. This notion may somehow suggest it to be an appropriate target to block for controlling allergic diseases. Through blocking IgE-mediated effects, the following consequences such as mast-cell degranulation, the release of inflammatory mediators and the development of clinical symptoms will be effectively terminated or attenuated. Given these known facts, approaches through blocking IgE effects were rarely or never been attempted before. In parallel to the consideration of treatment for bronchial asthma, based upon the advances of molecular biology, many different ways of interfering along the course of the cascade of the allergic reaction, such as targeting CD4, TNF- α , IL-4, IL-5, IL-10, IL-12 and endothelial adhesion molecules were developed or indeed evaluated. Considering both efficacy and the risks of each kind of these treatments, for a long-term control of allergic disorders, these therapies unfortunately have their weakness. Compared to these therapies, anti-IgE attracts scientists' attention in recent few years because of its great advantages with both very limited side effects and great effectiveness in several different types of allergic disorders.

Omalizumab, the monoclonal antibody targeting IgE, is a chimeric protein containing human IgG1 portion for 95%, and the other 5% is murine IgG which contains the antigen-binding site (IgE ϵ 3 domain). Extensive evaluations of the effects of omalizumab on patients with moderate-to-severe allergic asthma have been conducted in many different clinical trials, and the results appear to be very promising with several effects, including the reduction of the number of exacerbations, the decrease of the need for inhaled steroids as well as the significant improvement of symptoms. Several characteristics of the patients with excellent therapeutic response include those who need high doses of inhaled corticosteroids, those who appear to have lower FEV1 and those who have a relevant number of exacerbation and emergency hospitalizations. Importantly, the favorable therapeutic responses are not only limited to patients with bronchial asthma but also to those with other allergic disorders like allergic rhinitis who share common characteristics of high serum IgE.

In this section, we are happy to have the world-known pioneer in IgE field, Dr. Chang who is the first to conceive the idea and to develop this anti-IgE monoclonal antibody treatment for allergic patients. He will present the whole story of his work and tell us how he initiated the idea of this treatment. In addition, some very previous experience of using this antibody to treatment asthmatic patients will be presented and discussed. We welcome physicians and scientists who are interested in this field to attend this interesting topic.