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Omalizumab

A Viewpoint by Pascal Demoly

Maladies Respiratoires, University Hospital of Montpellier, Montpellier, France

The concept of using neutralising anti-IgE antibodies to treat IgE-mediated diseases is a logical approach considering the pivotal role of IgE in the pathophysiology of most allergic diseases. Omalizumab, a humanised nonanaphylactogenic monoclonal anti-IgE antibody raised against the Cε3 domain of IgE, the site of high affinity binding to the α chain of the FcεR1 receptors, has been commercially developed over the last decade. In clinical trials omalizumab decreased circulating free IgE levels, improved asthma symptoms, reduced the frequency of asthma exacerbations and the use of rescue β_2-agonists and corticosteroids, and improved health-related quality of life in both adults and children. The route of administration has been improved from intravenous to subcutaneous, with aerosol administration appearing to be ineffective. A few patients developed urticaria; however, the overall short term tolerability profile was satisfactory. Similar results have been obtained in the treatment of seasonal allergic rhinitis and data on perennial rhinitis are pending.

Epidemiological studies have consistently shown that asthma and rhinitis often co-exist in the same patients. Indeed, a growing number of studies show that the inflammation of nasal and bronchial mucosa is sustained by a similar inflammatory infiltrate. Therefore, a common strategy should ideally be used to treat both diseases and in terms of efficacy and tolerability, omalizumab appears to fulfil this new requirement. However, the precise place of omalizumab in treatment and whether anti-IgE therapy is able to alter the natural course of allergic diseases are issues which need to be addressed with further studies. More patients receiving omalizumab for a longer period of time are needed to ascertain the safety of such an approach. Finally, clinical trials in other IgE-mediated diseases including atopic dermatitis are awaited. ▲