The efficacy of omalizumab on the concomitant allergic diseases in children with asthma (Russian experience)

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**Background:** Omalizumab is the unique monoclonal antibody for treatment of severe uncontrolled persistent asthma and chronic idiopathic urticaria in children. The efficacy and safety of Omalizumab on food allergy has been studied only in few trials with children. At the present time, the efficacy and safety of medical technology must be confirmed by randomized trials. A patient registry can be used as an alternative method in a clinical practice.

**Objective:** To analyze the impact of Omalizumab on the concomitant allergic diseases in children, including food allergy.

**Methods:** Data of pediatric patients’ registry with uncontrolled severe persistent asthma were analyzed. This registry includes data of 101 children (67.33% boys) from 6 y to 17 y 11 mo (average age 13.4 y), receiving therapy with Omalizumab (the duration of therapy from 1 to 81 mo).

**Results:** According to the registry concomitant allergic diseases are: 98% - allergic rhinitis; 68% - hay fever, 43% - atopic dermatitis, 28% - drug allergy, 13.86% (14 children) - food allergy as urticaria and angioedema. According to the results of the skin test and specific IgE, the most meaningful allergens, such as milk, eggs, fish, nuts and chicken have been revealed.

All children (101) had a positive dynamics of asthma during the therapy with Omalizumab: the amount of basic therapy has been reduced (before the therapy the average dose in terms of fluticason propionate was 675 ± 278 mkg, after the therapy - 602 ± 290 mkg), the number of exacerbations and the use of relief medications have been reduced, control of the disease has been improved (Asthma control test before the therapy was 14 ± 4,5 points, after the therapy - 19 ± 3.61 points).

During the Omalizumab therapy the clinical manifestations of concomitant allergic diseases including food allergy decreased. According to the skin tests (average diameter of papules decreased by 30-50%), and sIgE (on average, decreased by 0,274 kUA /l, which means 42%) sensitization has been reduced. Clinical improvement and decrease of requirement in symptomatic therapy were observed.

**Discussion:** Received findings are adjusted with other investigations (Rafi A. et al. 2010, Pena Peloche M. et al. 2011).

**Conclusion:** The anti-IgE therapy improves not only the asthma control, but also relieves the symptoms of concomitant allergic diseases, particularly food allergy.