



A Cough Is Not a Cough – First Discovery of Immunospecific Markers

The Clinical Cooperation Group “Immunoregulation in Childhood” has set out to look for immunospecific markers, which will help distinguish between the diagnosis of an allergic cough and that of a cough with other causes, so that more specific therapeutic approaches will be possible than in the past. And some initial success has been seen.

Coughing is a widespread symptom, mainly in children and infants. The causes for coughing may be manifold: thus, a cough may be the only symptom of allergic asthma. A clear diagnostic differentiation has been difficult so far. But it would be important, since a cough with allergic asthma

is treated differently from a cough, e.g., associated with viral infections, as they are frequent in children.

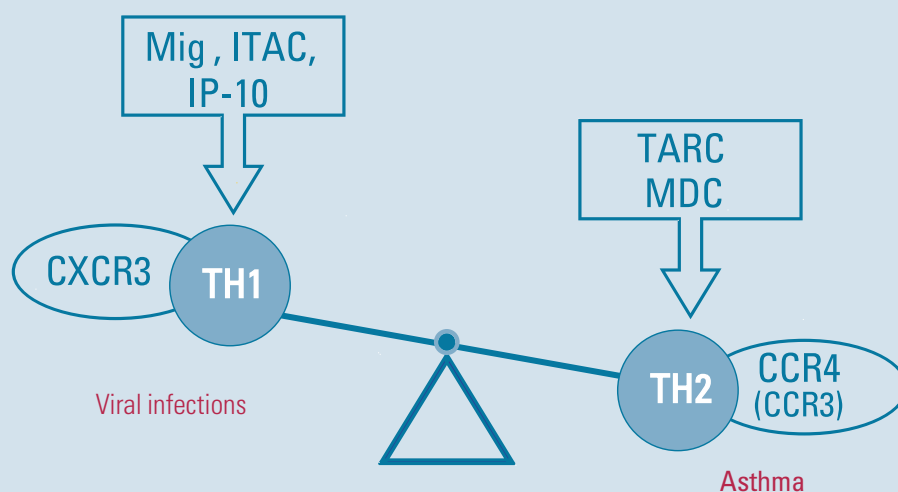
The Clinical Cooperation Group “Immunoregulation in Childhood” has set out to look for immunospecific markers, which will help dis-

tinguish between the diagnosis of an allergic cough and that of a cough with other causes, which will make more specific therapeutic approaches possible than in the past. And it has had its first success: "A key might be in the Th1-/Th2-related pulmonary chemokines and their receptors," Dr. Susanne Krauss-Etschman, head of the KKG, explains. In a clinical study, which has just been completed, her group examined 12 children with allergic asthma, 15 children with chronic cough without an atopy background as well as 10 children without any diseases of the respiratory tract. Among other things the concentration of the pulmonary chemokines and of the corresponding receptor-carrying lymphocytes was determined in the bronchoalveolar lavage of the children. The result: in the children with allergic asthma the content of two kinds of pulmonary chemokines as well as of specific lymphocytes was clearly elevated.

On the other hand in the other children without an asthmatic background higher concentrations of other chemokines as well as of specific lymphocytes were found.

The analysis of these newly identified markers does not only open up prospects for an essential contribution to the differentiated diagnosis of allergic and non-allergic respiratory diseases. As a next step the Clinical Cooperation Group also wants to continue the search for the immune markers in sputum samples, so that in the future the invasive method of bronchoalveolar lavage will become superfluous. Furthermore, the results of a larger case number of children should be checked prospectively, before they can be applied in everyday clinical practice.

Th1-/Th2-associated chemokines and receptors



In children with allergic asthma the level of the pulmonary chemokines TARC and MDC as well as of CCR4+CD4+ lymphocytes is clearly elevated. On the other hand in the other children with no asthmatic background higher concentrations of ITAC and IFN- γ as well as CXCR3+ CD8+ cells are found. The new markers identified by the Clinical Cooperation Group "Immunoregulation in Childhood" make an essential contribution to the development of a differentiated diagnosis of allergic as opposed to non-allergic respiratory diseases.



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