FOLLOW-UP OF TWO CHILDREN WITH VERY LOW IGE FROM BIRTH

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Background Immunoglobulin E (IgE) is best known for its association with allergic diseases. Very low IgE may be a marker for other immunodeficiencies. Deficiency or low IgE is defined with IgE concentration lower than 2.5 IU/ml. A majority of studies suggest a prevalence of 1-2.6%.

The clinical significance of an isolated low IgE (‘selective IgE deficiency’) is unknown and is not currently included in the consensus classification of Primary Immunodeficiency Diseases (PIDD). Low IgE is suggestive of a primary humoral immunodeficiency, like Common variable immunodeficiency (CVID). In recent studies a connection between low serum IgE and low levels of one or more classes of immunoglobulins are found. The children’s group was characterized with a higher prevalence of asthma.

Both groups (children and adults) had significantly higher prevalence of chronic sinusitis, otitis media, autoimmune, and oncological diseases than controls. In our case report two cases of very low IgE are presented. Both of them have been followed up from birth.

Case presentation: a cohort of 72 children has been followed up from birth to the age of 10 years of age. In two of them a very low serum IgE was found. Serum IgE was assessed at birth from cord blood, and reassessed at 1, 2 and 10 years of age with specific IgE (sIgE) for standard palette of food and inhalant allergens. At 10 years of age skin prick test, measurement of fractional exhaled nitric oxide (FeNO) and spirometry have been conducted.

The girl had an unmeasurable level of IgE in cord blood, and also at 1 and 2 years, and her IgE at 10 years was 0.1 IU/ml. The boy’s IgE in cord blood, and at 1, 2 and 10 years was 0.11, 1.0, 8.2 and 0.1 IU/ml, respectively.

They both had symptoms characteristic of asthma and allergic rhinoconjunctivitis throughout their childhood, with negative sIgE at 1, 2 and 10 years of age and no evidence of type I hypersensitivity. Their other immunoglobulin (IgG, IgM, and IgA) levels at 10 years was within reference range for age, and they showed no symptoms suggestive of immunodeficiency or autoimmunity.

Conclusion Here we report of two cases with selective IgE deficiency in children who had been followed up from birth. Very low serum IgE may serve as a marker of immune dysregulation and autoimmunity, and should trigger appropriate investigation (immunoglobulin quantification). The children will be closely monitored.
of dupilumab treatment, consistent with results in adults and adolescents. These data suggest that no routine laboratory monitoring for hematology/chemistry parameters is required in adolescents with AD prior to or during dupilumab treatment.

Many patients report allergic reactions to this antibiotic, but amoxicillin allergy range between 1-10%. However, clinicians hesitate to prescribe it when a suspected, but unproven, allergy exists. Our aim is to confirm amoxicillin allergy in children with clinical suspicion.

This study was done between January 2018 and December 2020, in children younger than 18 years, admitted to the emergency room with suspicion of clinical allergic reaction to amoxicillin. According to the protocol of our hospital, they were referred for pediatric allergology appointment to perform prick tests and afterwards oral provocation test.

A total of 57 cases were referred for evaluation. The average age was 8.4 years old, and 53% were female. The suspicion was based on late rash reaction presented in 68.4%, urticarial exantheme in 19.3%, edema in 8.8%, vomit in 8.8%, cutaneous rash in 7% and dyspnea in 2.1%. In 18 patients, specific IgE screening for amoxicillin was performed, but all results were negative. All children did a prick test for amoxicillin and oral provocation test. There were no positive results for prick tests, but two positive results in the oral provocation test (3.5%).

Confirmation of amoxicillin allergy, before deciding to use it or not, is an important tool for antimicrobial stewardship and, consequently, to decrease the rate of antibiotic resistance. So far, in our hospital, there were only two positive results.

Periostin is a matricellular protein upregulated in response to IL-4 and IL-13, that have a role in development of allergic diseases. Previous studies reported that periostin can be a non-invasive biomarker of T2-driven inflammatory response in asthma in adults, with inconsistent results in children. None of the studies examined the association of serum periostin levels with asthma symptoms in children who have been infected with respiratory syncytial virus (RSV) in the first two years of life. The aim of this study was to determine the usefulness of serum periostin levels as a potential biomarker for asthma, especially recent asthma symptoms in children.

This prospective study observed 72 children from birth. RSV infection was confirmed with positive serum specific RSV Immunoglobulin G (IgG) at one and/or two years of age. Asthma was diagnosed according to International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire at 10 years of age. Fractional exhaled nitric oxide (FeNO), lung function, skin prick test and blood samples for analysis of specific immunoglobulin E (sIgE) on standard paltel of inhalant allergens, total IgE (tIgE) and periostin were provided.

At 10 years of age, asthma was diagnosed in 23 (31.9%) of the observed children. In 15 (20.8%) of them who reported asthma symptoms during the last 12 months, median serum periostin levels were 40.04 ng/ml. In 57 (79.2%) children who were free of asthma symptoms in the last 12 months, mean serum periostin levels were 30.57 ng/ml. Serum periostin levels correlated significantly

β-Lactam antibiotics are safe and cost-effective antibiotics, being amoxicillin the most common antibiotic used among the paediatric population.

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