control group (non-atopics suffering from functional dyspepsia, chronic gastritis, functional biliary disorders).

Atopy at all the main group patients was confirmed by the elevated serum total IgE detected by the electro-chemiluminescence quantitative determination method. All the patients of the main and control groups had undergone CTACK and TARC detection using the enzyme-linked immunosorbent quantitative determination method.

Association between IgE total, CTACK, TARC and AD phenotypes was determined by the Spearman rank-order correlation (R). For detecting the risks associated with onset of AD different phenotypes we had determined odds ratio (OR) with 95% confidence interval (CI) by application of ROC-analysis.

All the data was validated by p-value ($p < 0.05$).

There is a significant association between serum total IgE and CTACK with AD as mono-nosology – $R = 0.385$ and $R = 0.341$ ($p < 0.01$) and with AD combined with SARC and/or PAR – $R = 0.718$ and $R = 0.397$ ($p < 0.01$). Risk of onset of AD as mono-nosology is significantly associated with serum IgE > 173 IU/ml – OR =

8.98 [95% CI 2.53, 31.86], $p < 0.001$ and CTACK ≥ 3658.5 pg/ml – OR = 5.64 [95% CI 1.56, 20.32], $p < 0.01$. Risk of AD combined with SARC and/or PAR onset is significantly associated with serum CTACK ≥ 4308.8 pg/ml – OR = 7.40 [95% CI 2.30, 23.76], $p < 0.001$. Risk of progression of AD as mono-nosology into AD combined with SARC and/or PAR is significantly associated with total serum IgE ≥ 1000 IU/ml – OR = 16.0 [95% CI 2.68, 95.44], $p < 0.001$.

Serum IgE total and CTACK are significantly associated with the studied AD phenotypes.

Risk of AD as a mono-nosology onset is significantly associated with serum total IgE ≥ 173 IU/ml and CTACK ≥ 3658.5 pg/ml, AD combined with SARC and/or PAR – serum CTACK ≥ 4308.8 pg/ml.

Risk of progression of AD as mono-nosology into AD combined with SARC and/or PAR is significantly associated with serum total IgE ≥ 1000 IU/ml.

There is no significant association between serum TARC and the risk of AD phenotypes onset.

146

THE LONG-TERM MONITORING AND ANALYSIS OF OUTCOMES OF DIFFERENT APPROACHES TO THE MANAGEMENT OF CHRONIC SPONTANEOUS IN ADOLESCENTS

Vera Kalugina*, L. Namazova-Baranova, E. Vishneva, P. Arimova, L. Aslamazyan. ¹Research Institute of Pediatrics and Child Health Care Central Clinical Hospital of Russian Academy of Science, Moscow, Russia; ²Pirogov Russian National Research Medical University (RNRMU), Moscow, Russia

10.1136/archdischild-2021-europaediatrics.146

Second-generation of H1-antihistamines (H1-AH) is the main therapy for the chronic spontaneous urticaria (CSU). Omalisumab (Omab) is the only biological, approved for the severe H1-AH resistant CSU in adolescents over

12 years.

Aim: to evaluate different approaches to severe CSU therapy in adolescents and assess achieving of disease control in 3 y period.

Methods The long-term prospective observation study of 34 children with severe CSU (55% boys, average age 13 y o (min 3; max 17,0), the duration of disease – 33 mo (min 3;

max 144); UAS7 – 18 points (min 16; max 24,0) was conducted. All patients received H1-AH for minimum 3 mo.

Patients were randomized in 2 groups. 17 patients of the 1st group were added with Omab to therapy: 55,6% girls, average age – 15 y (min 12,0; max 17,0); disease duration was 45,2 mo (min 3,0; max 144,0), the average total IgE level – 348,2 IU/mL (min 0,8; max 2041,0); the average UAS7 at debut –

17,2 points (min 16; max 24). The course of Omab therapy was 6 mo, 300 mg/mo subcutaneously.

17 patients of the 2 nd group maintained alone H1-AH therapy: 64,7% boys, average age – 10,8 y (min 3,0; max 15,0); disease duration was 20,5 (min 3; max 72) mo, the average total IgE level -182 IU/mL (min 20; max 1050);

UAS7 at debut – 18 (min 16; max 28) points.

The efficacy of therapy assessed by urticaria activity score for the 7 days (UAS7).

Results in the 1st group of patients in 6 mo of Omab therapy UAS7 was 1,6 (min 0; max 20) points, $p < 0,05$. After 3 y of the course Omab therapy UAS7 was 4,5 points, $p < 0,05$.

In the 2 nd group of patients, who received alone H1-AH, in 6 mo UAS7 remained at the same level – 18 points ($p < 0,05$). The average UAS7 in 3 y was 12 (min 0; max 26) points ($p < 0,05$).

Thus, in patients receiving Omab UAS7 significantly decreased after 6 mo.

The UAS7 level in the Omab group indicates a greater proportion of children who have achieved disease control. The proportion of children, who have achieved remission during 3 y (UAS7=0): in Omab group 52,9%, in H1-AH – 29,4% ($p = 0,163$).

Conclusion Our results indicate the efficacy of Omab in adolescents with

CSU: rapid relief of urticaria symptoms and a greater proportion of adolescents who have achieved disease control, compared with therapy alone H1-AH.

147

STEVENS-JOHNSON SYNDROME

Nedim Strukar*, Verica Mišanović, Adisa Čengić, Aida Karačić, Alma Mujić, Emina Ribić. Department of Pediatrics, Travnik County Hospital, Travnik, Bosnia and Herzegovina

10.1136/archdischild-2021-europaediatrics.147

Stevens-Johnson syndrome (SJS) is a severe mucocutaneous reaction characterized by extensive necrosis and separation of the epidermis. The mucous membranes are affected in over 90% of patients, usually in two or more different sites. The incidence ranges from 2 to 7 cases per million people per year. Medication use is a leading trigger of Stevens-Johnson syndrome in both adults and children, followed by Mycoplasma pneumoniae infection. The disease begins with flu-like symptoms and fever, followed by the onset of mucocutaneous and skin changes. The diagnosis is based on clinical and histological findings in a patient with a history of previous medication exposure or febrile illness.

A 10-year-old boy presented with fever, cough, and dyspnoea. He was examined ten days before the admission and prescribed with antibiotic.

Physical examination shows dehydration and light dyspnoea, along with mild diffuse bulbar injection of both eyes, and moderate oedema and hyperaemia of the tonsils and pharyngeal mucosa. There was no skin rash. Auscultation of lungs

showed exacerbated breathing sound. Laboratory tests were unremarkable and nasopharyngeal swab was negative. Antibiotics, bronchodilators, and corticosteroids were administered upon admission. The patient remained febrile despite the treatment with antipyretics. After a day, we noticed bluish crusted changes on the lower lip and aphthous changes on buccal mucosa and tongue. Over the next four days, mucosal changes of the oral cavity and tongue spread, with development of maculopapular changes on the thorax, extremities, left ear, and penis, along with intense hyperaemia of the mucous membranes followed by hypersecretion. Due to suspected diagnosis of Stevens-Johnson syndrome, antibiotic therapy was discontinued. Mycoplasma pneumoniae serum titers were analysed and returned positive. The diagnosis of SJS was confirmed and the patient was prescribed with parenteral rehydration and Midecamycin, along with topical treatment of the oral cavity, eyes and skin. After couple of days, the patient was stable, with excellent indicators for recovery.

Patient was initially diagnosed with Stevens-Johnson syndrome, but the diagnosis can subsequently be revised to Mycoplasma pneumoniae-induced rash and mucositis (MIRM), recently characterized entity clinically distinct from SJS, as it describes significant mucosal involvement with minimal or no skin lesions. The most commonly involved mucosal sites are oral, ocular, and urogenital, just as with the patient we presented. Both SJS and MIRM are rare conditions and it is important that discussion of the treatment strategies should always be interdisciplinary.

148 AMOXICILLIN ALLERGY IN CHILDREN... COMMON OR UNCOMMON?

Íris Santos Silva*, Catarina Macedo Francisco, Joana Filipe Ribeiro, João Virtuoso, Pedro Guerra, Rita S Oliveira. *Hospital Sousa Martins, ULS Guarda*

10.1136/archdischild-2021-europaediatrics.148

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

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 retrospective study was done between January 2018 and December 2019, 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 48 cases were referred for evaluation. The average age was 8.5

(1-17) years old, and 54% were female. The suspicion was based on late rash reaction presented in 75%, urticarial exanthema in 18.8%, edema in 8.3%, vomit in 8.3%, 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 (4.2%).

Confirmation of amoxicillin allergy, before deciding to use it is 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.

149 IMBALANCE OF IL-10 AND IL-13 UMBILICAL CORD BLOOD IN CHILDREN BORN TO MOTHERS WITH ASTHMA

¹EA Boytsova, ¹TV Kosenkova, ¹IE Zazerskaya, ²VP Novikova*, ²NM Bogdanova, ²OP Gurina, ²AE Blinov, ²ON Varlamova, ³OV Lavrova. *¹Federal State Budgetary Institution «V.A. Almazov National Medical Research Center» of the Ministry of Health of the Russian Federation, Saint-Petersburg; ²Saint-Petersburg State Pediatric Medical University, St. Petersburg; ³St. Petersburg First Medical University, Russia, St. Petersburg*

10.1136/archdischild-2021-europaediatrics.149

Introduction Genetic predisposition to atopy persons responding to allergens by the rapid proliferation of Th2 lymphocytes, which secrete cytokines that accelerate the synthesis of IgE antibodies.

Objectives Purpose of the research is to study cytokines rate in umbilical cord blood of children born to mothers suffering severe bronchial asthma (BA).

Material & methods: Umbilical cord blood samples were taken from 22 full-term babies born to mothers with BA. The comparison group consisted of

66 children born to mothers without allergies. The ratio of boys and girls in the studied groups was the same. The average age of mothers in the groups was the same (31.26 ± 2.32 years and 32.87 ± 2.03 years; $p > 0.05$).

Cytokines rate (TNF- α , TGF- β 1, IL-18, IL-13, IL-10 and IFN- γ) was quantified by IFA. Statistical processing of data was performed on a personal computer using licensed computer software 'Microsoft Excel 2016' and 'STATISTICA 12'. The Student t-test value was determined while analyzing the distribution of quantitative data. The criterion of statistical significance level was $p < 0.05$.

Results A significant rate decrease of IL-13 was found (6.67 ± 1.6 pg/ml versus 2.0 ± 0.23 pg/ml in the comparison group, respectively, $p < 0.05$) in umbilical cord blood of children born to mothers suffering from BA, which is associated with respiratory allergy. IL-13 rate decrease can be judged as a factor of the long-term intrauterine persistence of the inflammatory process in a child.

In addition, rate increase of IL-10 was found (66.69 ± 14.5 pg/ml versus

25.52 ± 3.1 pg/ml in the comparison group, respectively, $p < 0.05$), which is synthesized by T- and B-lymphocytes, monocytes and macrophages, reduces the activity of the Th-1 immune response more than Th-2.

Conclusion There is an imbalance of the main anti-inflammatory cytokines: a decrease in IL-13 and an increase in IL-10 in umbilical cord blood of children born to mothers with BA. That can be a reflection of the systemic reaction of body to local damage to organs and can be served as one of the indicators of the intensity and duration of the inflammatory process, as well as disease progression.