

## Allergic Diseases are an Important Problem Nowadays – Suggestions for Resolving

It is not single rhinitis and eye itch but a wide spectrum of different hypersensitivity reactions ranging up to life threatening reactions and death; yet, toxic epidermal necrolysis (TEN), drug reaction with eosinophilia and systemic symptoms (DRESS) as well as fatal outcome of angioedema are fortunately rare. Nowadays, however, even more severe reactions, i.e. drug reactions due to self-medication ranging up to anaphylaxis, are increasingly seen. That is why continuing education medical courses for dermatovenerologists, general practitioners, pharmacists, pharmacologists, pediatricians, internal medicine specialists and others are highly important. An interdisciplinary group of specialists for anaphylaxis training and education such as AGATE in Germany is lacking in Croatia. It is important to examine drug reactions to prove them and control the use of different drugs at the same time. In the last 25 years, the rate of insect bite allergy has increased. There are scientific concepts on the molecular character of poison components as well as systematic examination of risk factors, better routine diagnosis (e.g., recombinant allergens, basophil-activation test), and efficient, specific immunotherapy (SIT) with insect allergen and increasing maintenance dose. In patients with systemic reaction relapses during SIT, pretreatment with anti-IgE antibodies (omalizumab) is available. There is a problem in patients having sustained severe insect bite and developing allergy anaphylaxis while being "negative" on prick test. For now, there is no explanation for severe reactions and all risk factors. There are no criteria for the duration of hymenoptera venom SIT at long term. Diagnostic and therapeutic possibilities are limited in insect bite (not only honeybee and vespula venom allergy). Analysis of IgE against a panel of hymenoptera venom allergens such as rApi m1, rApi m 2, mApi m 4, rVes v1 and rVes v 5 increases sensitivity and leads to better discrimination of bee and wasp venom allergy (1).

Detection of sIgE to Api m 1 and Ves v 1 is important in allergologic diagnostic correlation between

Api m1 and MUXF3, which should be investigated in the future. How to perform H1N1 vaccination in a patient with egg allergy? Before vaccination, prick test to the vaccine is required; then apply 10% and after 30 minutes the rest of 90% of the dose or complete dose (ovalbumin concentration is up to 1.421 µg/mL) (2). Japanese dermatologists examined allergens from self sweat of six patients for SIT (sterilized sweat from 6 subjects and applied s.c., then Na Cl sol. s.c. and after 2-12 months maintenance dose). Urticarial 6-mm reaction to sweat was prolonged in all subjects; five of them had less intensive and frequent reactions (3). Childhood eczema and rhinitis predict atopic but not nonatopic adult asthma. A prospective follow up cohort study in 1320 subjects over 4 decades proved the risk of new atopic asthma (4.1 to 8.8) in adults if having experienced rhinitis and/or eczema in childhood. There is the need to stop atopic march in childhood (4).

Stevens-Johnson syndrome (SJS) and TEN are considered as one disease entity of different severity. Although SJS is a less severe disease, the etiology, genetic predisposition and pathomechanism are the same for SJS and TEN. SJS and TEN are mainly caused by drugs but are also observed after infections and without obvious triggers. Identification of the cause is important for the individual patient and in case of drug-induced disease, withdrawal of the inducing drugs has an impact on the patient's prognosis. Besides this, supportive management is crucial to improve the patient's state, probably more than specific immunomodulating treatment. Despite all therapeutic efforts, mortality is high and increases with disease severity. Consensus definition of severe bullous skin reaction in SJS/TEN and erythema exudativum multiforme (EEM) distinguishes bullae, typical cocardes, atypical cocardes, maculae and their distribution (5). The high-risk drugs are allopurinol, carbamazepine, cotrimoxazole, lamotrigin, nevirapin, NSA of oxicam type, phenobarbital, and phenytoin. In Zagreb, we

reported fatal outcome in a patient after lansoprazole in 2010 (5).

The most important allergy problems include asthma, rhinoconjunctivitis, recalcitrant atopic dermatitis, food allergy, insect bite allergies, occupational dermatoses, environmental dermatoses, allergy in the elderly and specific immunotherapy according to Deutsche Gesellschaft für Allergologie und Klinische Immunologie (DGAKI). It is necessary to develop a concept of prevention and therapy with actual interdisciplinary guidelines for resolving the increasing allergy problems. The hundred years of SIT is a topic of the next Allergy DGAKI Congress.

Concerning cow's milk, the risk of allergy in children is reduced with the new Hipp HA Combiotik® as a hypoallergen food for nursing at beginning and further eating. There is cow milk hydrolysate (similar to mother's milk) for the end of the first year of life with Hipp HA2 Combiotik® and after ten months of life with Hipp HA3 Combiotik®. For prevention of atopic dermatitis, Beba® HA (Molken hydrolysate) is suitable for nursing. SLIT (sublingual) IT is much better than SCIT (subcutaneous) SIT with 5-grass tablets (500 IR/300 IR; Oralair®) in patients with allergic rhinitis with 300 IR1 (6).

The symptoms of mastocytosis (MC) include episodes of atypical mast cell mediator release and anaphylactic reactions. The diagnosis of mast cell activation disorders (MCAD) has been proposed for subjects without skin lesions (such as urticaria pigmentosa) and unexplained anaphylactic reactions. In MCAD, there is both KIT-mutated and aberrant CD25 expression on bone marrow MCs, defined as clonality. The diagnosis of MCAD is crucial for the treatment of allergy and anaphylaxis (7). A study of the pathogenicity of *Malassezia* spp. has been conducted in Poland since the 1980s in atopic dermatitis patients with head and neck lesions. It is necessary to specifying the exact role of *Malassezia* spp. and particular strains, as well as the use of molecular biology methods (8). Sensitization to cereal allergens is a common phenomenon in children with atopic dermatitis. In case of positive results of allergy to cereal, proteins and severe exacerbation of atopic dermatitis, attempts of elimination and provocation tests should be considered (9).

Nowadays, we have other allergy problems in Croatia as they are increasing in the world. My intention is to point them and to find a way to help our very vulnerable allergic population. On celebrating 50-year jubilee of the Academy of Medical Sciences

of Croatia and also intended for students of doctoral continuing medical education postgraduate study "Immunodermatology", I give this contribution and have published a book entitled "Allergologic and Immunologic Diseases", with the interdisciplinary team of experts in the field of allergy and clinical immunology, as dermatological contribution to education and practical consideration in allergy.

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