CASE REPORT

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Atopic Dermatitis Much More Than Skin Disease

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ABSTRACT

Introduction: The importance of managing Atopic Dermatitis (AD) lies not only in their proper treatment, but primarily in their early detection and in the correct determination of the cause of the disease. AD is a common pruritic, chronic, relapsing, inflammatory skin disease occurring primarily, in childhood. The clinical picture of AD varies substantially depending on the age of the patient. **Aim:** We presented three cases of AD which fond them interesting from a lot of reasons. **Results:** Case three is mono sensitizated against house dust mite, only (inhalants), also to milk and white egg, with symptoms of very Severe form of AD. So, we put him in hypoallergenic diet (hypoallergenic milk and diet without egg) and also started with SLIT against house dust mites. After 3 year of treatment the changes during the skin completely disappeared. This boy we have treated four years before, very successfully. The use of immunotherapy is still a matter of debate in the various guidelines for the treatment of this very complicated disease. Immunotherapy can be expressed only in the well-chosen group, sensitized patients in aeroallergens. Especially in monosensitized patients we expect satisfactory achievement (our third case, today after a treatment we achieved absolute success). But we must not forget that this therapy lasts three to five years, so patients may feel tired and physically exhausted (as in our second case). **Conclusion:** While in cases where we are dealing with polysentisizited patients and extremely sensitive (our first case), we should be very careful. Except the possibility that the patient may respond to us with undesirable reaction, we should also be very careful with the selection of the vaccine and initial dose of application. In these patients, we are looking forward for the biological therapy.

Keywords: Atopic Dermatitis, SLIT.

1. INTRODUCTION

"United Action for allergy and asthma" launched on April 25, 2017 in Brussels (European Parliament), presented that 150 million EU citizens suffer from chronic allergic diseases (100 million Europeans suffer from allergic rhinitis and 70 million suffer from asthma) (1). By 2025 more than 50% of all Europeans will suffer from allergy. 17 million Europeans lives with a food allergy, when 8% of them are acute anaphylaxis and potentially fatal (2-9). Also the most important warning due to this meeting was that if patients were treated appropriately with available cost effective treatments, an average of 142 billion EU per annum could be reached. Therefore, the importance of managing of these diseases lies not only in their proper treatment, but primarily in their early detection and in the correct determination of the cause of the disease. (10-15). Atopic dermatitis is a common pruritic, chronic, relapsing, inflammatory skin disease occurring primarily, in childhood (1, 2, 9, 16).

The clinical picture of AD varies substantially depending on the age of the patient (1). Typically, at least 4 different kinds of clinical features have been defined as follows: infantile, childhood, adolescent/adult, and elderly. Clinical practice has shown that there is a significant proportion of patients with seemingly normal total IgE levels (IgE<100 kUI/ml) but who also have significant specific IgE levels against (2). Since atopic dermatitis serves as a starting point for a future allergic marsh, alergoimunologists, dermatologists and pediatricians should cooperate together for better managing of this disease. DA as a chronic inflammatory skin disease, with frequent relapses, is more frequent in families with other atopic diseases (3, 17-20). We as an allergologist focus on DA that manifests with high level of total IgE, followed by specific IgE against the allergen or sensitization presented with Skin Prick Test (3). According to Furue Skin Barrier Dysfunction the th2 / th22-derived cytokines induced the dry skin in AD, and this will accelerate the penetration of allergens, and the colonization of Staphylococcus aureus (2).

2. CASE PRESENTATIONS

Case number 1

Patient 1: N.N. 11year old boy from Ferizaj,Kosovo

A 11-year-old boy with history of multiple IgE mediated allergies (foods, inhalants). In the anamnestic data his parents told us that their boy since the first days of birth manifested affected skin with edematous papules and papulovesicles large plaques and crusting in the scalp, neck and extensor parts of the extremities, signs of Atopic dermatitis for which it has been treated only with local creams (corticosteroids, antibacterial and antifungal creams, time to time with calcineurin inhibitors such is Tacrolimus). After a years of topical treatment he came in our clinic, a year ago with signs of Atopic dermatitis, Allergic Rhinoconjunctivitis and Bronchial Asthma (typical atopic march). In clinical examination, swell, itch, and burn eyes with redness, with dermatitic changes in both limbs (flexural ecema) and also dry skin in all the body. In auscultation we find the wheezing. In laboratory examination we find Eosinophilia >4%, D Vitamin=15.66ng/ml, total IgE>360UI/ml(ELISA), specific IgE (RIDAqLine Allergy, Germany,) high level: Inhalant allergens: D.pter=7.27IU/ml, D.farinae=0.60IU/ml, Grassers/Cereals>100IU/ml, Rye>100IU/ml, Mugwort=0.26IU/ml, Penicillium notatum=0.38Iu/ml, Cladosporium=32.67Iu/ml, Aspergillus fumigatum=0.14Iu/ml, Alternaria=0.60IU/ml. Also nutritive test was positive in: Hazelnut=14.77Iu/ml, Milk=3.38Iu/ml, Casein=0.50Iu/ml, Egg white=0.25IU/ml, Sesame=0.39IU/ml.

The spirometric data registered: FVC<85%,FEV1<90%,FEF25<81%. So we diagnosed him with Atopic Dermatitis-severe form, Allergic Rhinoconjuctivitis and Bronchial Asthma -moderate form.

We started pharmacological therapeutic treatment with Systemic Corticosteroids, Broncodilators LABA, Systemic Antihistamines, and Antileukotrienes. With this therapy we achieved the improvement of FEV1 up to 90%, as well as clinical improvement. After my suggestion we started with Specific Immunotherapy to Grasses /Cereals SCIT (Allergovit A + B) (Allergopharma,Germany). After the first dose of application the patient didn't felt good,after which we registered the decrease of FEV1 less then80%. Because of systemic reaction after the first dose of SCIT(0,1) we discontinued with Specific Immunotherapy and we decided to continue with a-IL4 and after that to continue with Specific Immunotherapy.

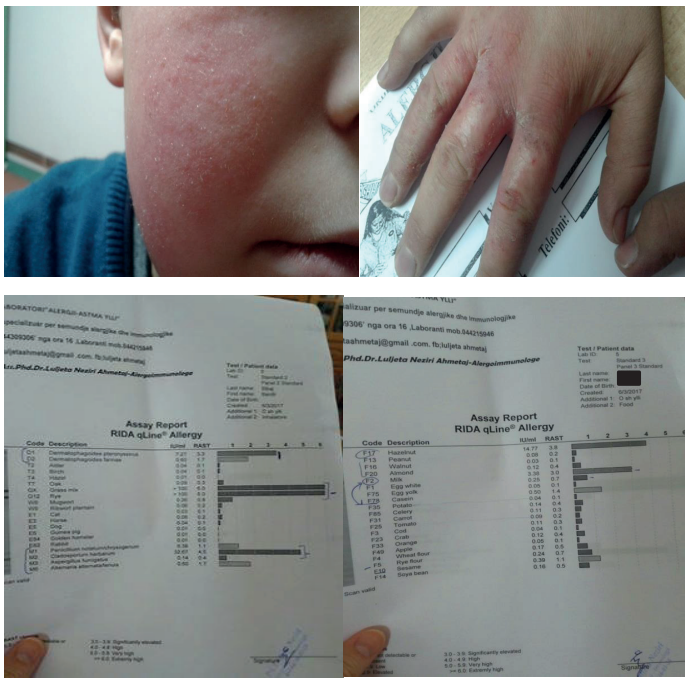

Figure 1 (a, b, c, d). Type of equtoon of the first case – clinical and laboratory findings of the AD

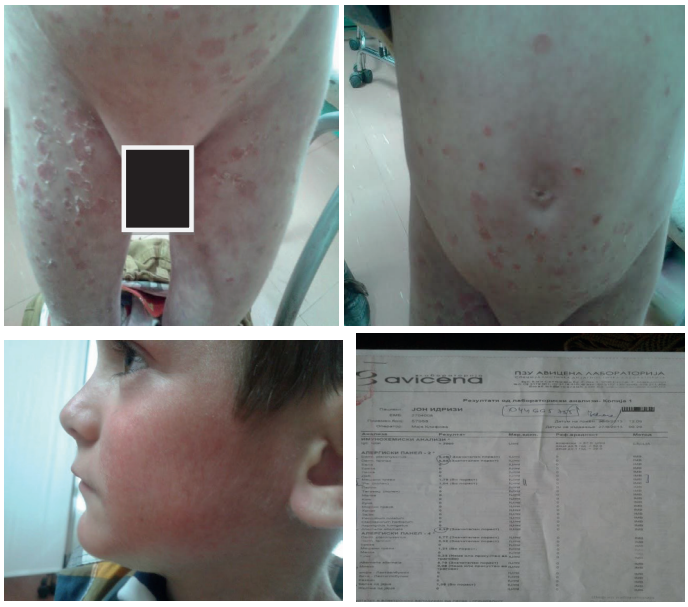

Figure 2 (a, b, c, d). Clinical and laboratory findings of the case 2 of AD

2.2. Case number 2

N.N.,2007, Prishtine,Kosovo. A 11-year-old boy with history of multiple IgE mediated allergies (foods, inhalants). In the anamnestic data his parents told us that his boy since the first days of birth manifested affected skin A 7- years-old boy with history of multiple IgE mediated allergic allergies (foods and inhalants). In anamnestic data the parents report us that his boy from the first days of birth has manifested in the all the body, the typical edematous papules and papulovesicles which after a years became plaques and crustes with periods of remission and worsening. After several years of treatment as atopic dermatitis with local different creams (corticosteroids, antihistamines, antifungals, bactericides) he came in our clinic four year before for the allergic evaluation. In clinical examination we find chronic lesions with lichenification, in all the body, popliteal and antecubital fossa, also crusting and xerosis skin. In laboratory examination we find: Eosinofilia >4%,very high Total IgE total >2000UI/ml (ELISA), specific IgE high level: Inhalants: House dust mites (D.pter=9.28IU/ml, D.farinae=6.48IU/ml, Grasses/Cereals=1.79IU/ml, Rye=1.04IU/ml and moulds Alternaria alternate=6.20IU/ml(extremely high). Also nutritive panel result with positivity to milk=0.08IU/ml and egg white=1.08IU/ml. We didn't find the symptoms of allergic rhinoconjuctivitis, none bronchial asthma (the spi-

rometric data was normal). So we concluded that our patient suffer from Atopic Dermatitis - very severe form (Leshem and al.).

We started pharmacological therapeutic treatment with Systemic Corticosteroids, and Topical protopics-inhibitors of calcineurin, Tacrolimus. With this therapy I achieve clinical improvement. After suggestion we start with Specific Immunotherapy to House Dust Mites (SLIT-Lofarma,Italy). After one year of treatment the parents discontinued the treatment (because of psychological repercussion tiredness and financial aspect). They decided to delay the start of the first class for their child for one year, waiting with hope for improvement of disease (but regretfully no improvement until now).

2.3. Case number 3

N.N.,2007,Kroacia. A 4-year-old boy with history of IgE mediated allergic allergies (foods and inhalants). History of the disease: In anamnestic data the parents told us that at age 3 years and 10 months his weight was only 8kg (he falls in hyponutrition after the doctors suggestion for strict diet (dr. Alexander from Russia). The disease started from the first days of his life. After years of unsuccessfully treatment the parents brought their child to our ambulance due to skin changes expressed in the region of the hands and the entire body, as maculopapulomatosis lesions, rhagades and swollen dregs followed by pronounced itching. The disease has begun since the age of 4,5 months with edematous papules, associated with large plaques. He was diagnosed as atopic Dermatitis only treated locally, until August 2010 when child is sent to the examination to mentioned Dr. Aleksandar. After Doctors examination, for child was suggested strict diet (only spinach=100 gr, rice=100gr, 100 ml of milk mixed with 200 ml of water). After few month of this diet the baby falls into hyponutricion, P = 8kg (age = 3y and 10 months). So, the parents decided to came in our clinic for further evaluation. In laboratory examination we find, Eosinofilia >5%, total IgE>300UI/ml(ELISA), specific IgE (RIDAqLine Allergy,Germany) high level: Inhalant allergens, positivity to house dust mites, D.pter=3.5IU/ml,D.farinae=2.0IU/ml,and Nutritive panel: milk=3.0IU/ml,and egg white=2.5IU/ml. After pharmaceutical treatment with oral corticosteroids and antihistamines we achieved the improvement and we proposed the avoidance of milk and egg from the food menu, as well as we initiate, with hypo-sensitizing against house dust (SLIT, Novo Helisen Oral, Allergopharma Germany). It was in 2014. And after 3 year of treatment our patient was very successfully treated. Now, he is young healthy boy.

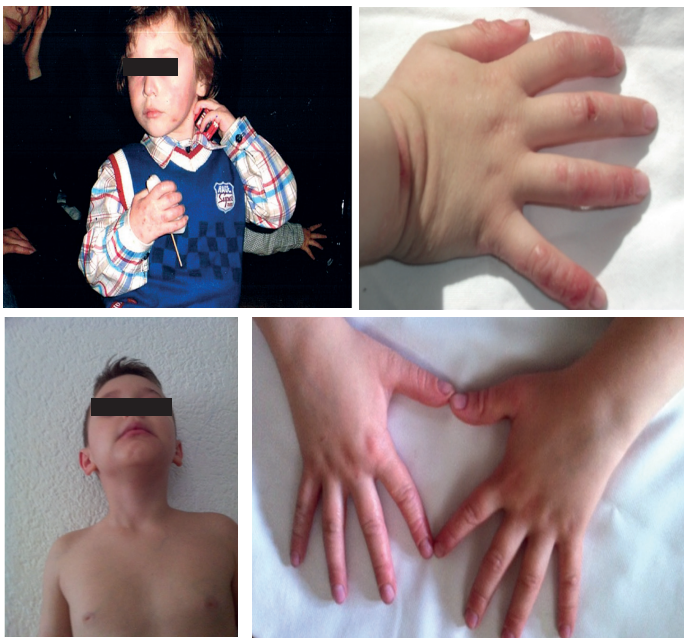

Figure 3 (a, b, c, d). The case of AD, Tanush D., 2007, Kroacia, successluly treated with SLIT

3. DISCUSSION

Based on the pathophysiology of DA, the treatment of a DA should include not only pharmacological but also etiologic therapy (specific antiallergic Imunotherapy). There are few data regarding the efficacy of SIT in the treatment of DA (European Guidelines for treatment of atopic eczema-partII) hypothetically patients with Skin Prick positive or specific positive IgE can benefit from SIT (5, 6, 15). Here we have presented three cases with different response to SIT. Case one is poli sensitizated patient due to inhalant and nutritive allergens, with symptoms of Severe form of DA, rhinitis and shortness of breath. Because of poli sensitization end extremely high level against Grasses/Cereals, Rye>100 IU/ml we discontinued the SCIT and firstly we take in consideration the biological therapy (3, 4, 7, 8) (but in Kosovo until now the Biological treatment is not available in our market). Case two is polysentisizited patient due to inhalant (extremely sensitization against house dust mites and alternaria) and nutritive allergens, with symptoms of Severe form of DA(Leshem and al.)(20). After one year of SLIT against house dust mites the parents decided to discontinue the specific allergic immunotherapy, because of lack of courage (loss of courage).The parents expressed psychological fatigue (4) (the parents did not send the boy to school due to the possibility of being ridiculed by other children). Psychological aspect)in our

Total IgE	360 IU/ml	ELISA
Eo	>4%	
D.pter	7.27 IU/ml	Class=3.3
D.farinae	0.60 IU/ml	Class=1.7
Grasses/Cereals	>100 IU/ml	Class=6.0
Rye	>100 IU/ml	Class=6.0
Mugwort	0.26 IU/ml	Class=0.8
Penicillium notatum	0.38 IU/ml	Class=1.1
Cladosporium	32.67 IU/ml	Class=4.5
Aspergillus fumigates	0.14 Iu/ml	Class=0.4
Alternaria	0.60 Iu/ml	Class=1.7
Hazelnut	14.77 IU/ml	Class=3.8
3.1. Milk	3.38 IU/ml	Class=3.0
Casein	0.50 IU/ml	Class=1.4
Egg white	0.25 IU/ml	Class=0.7
Sesame	0.39 IU/ml	Class=1.1

Table 1. The Case unsuccessfuly immunotherapy treated

Total IgE	>2000IU/ml(EACLIA)	
Eo	>4%	
D.pter	9.28 IU/ml	(very high)
D.farinae	6.84 IU/ml	(very high)
Grasses/Cereals	1.79 IU/ml	(high)
Rye	1.04 IU/ml	(high)
Alternaria alternate	6.20 IU/ml	(very high)
Milk	0.008 IU/ml	(very little, trace)
Egg white	1.08 IU/ml	high

Table 2. The Case discontinued the SLIT

Total IgE	>300 IU/ml (ELISA)
Eo	>5%
D.pter	3.5 IU/ml
D.farinae	2.0 IU/ml
Milk	3.0 IU/ml
Egg white	2.5 IU/ml

Table 3. Third case: very successful Immunotherapy (5, 6, 15)

country we should introduce Educational services (as Multidisciplinary age-related structured training educational programs, Eczema workshops or self-management educational training programs, but unfortunately there are no evidence that from such programs will have lot benefits (3, 4, 11, 13, 14, 17-19). Case three is mono sensitizated against house dust mite, only (inhalants), also to milk and white egg, with symptoms of very Severe form of AD (Leshem et al.) (20). So, we put him in hypoallergenic diet (hypoallergenic milk and diet without egg) and also started with SLIT against house dust mites. After 3 year of treatment the changes during the skin completely disappeared. This boy we have treated four years before, very successfully.

4. CONCLUSION

The use of immunotherapy is still a matter of debate in the various guidelines for the treatment of this very complicated disease. Immunotherapy can be expressed only in the well-chosen group, sensitized patients in aeroallergens. Especially in monosensitized patients we expect satisfactory achievement. But we must not forget that this therapy lasts three to five years, so patients may feel tired and physically exhausted (as in our second case). While in cases where we are dealing with polysentisizited patients and extremely sensitive(our first case) , we should be very careful. Except the possibility that the patient may respond to us with undesirable reaction, we should also be very careful with the selection of the vaccine and initial dose of application. In these patients, we are looking forward for the biological therapy (which is currently very difficult to provide in our country, but even it is provided, it is too expensive for our patients). So, although atopic dermatitis isn't a life-threatening disease, can we consider it as "not serious" disease? Absolutely not! Atopic dermatitis is a disease that causes frustration not only for the patient and his family but also for doctors too.

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- **Conflict of interest:** None declared.
- **Financial support on sponsorship:** Nil.

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