

Contrasted analysis of common allergens detected by three different methods

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Abstract:

Objective The purpose of the study is to detect common allergens in patients with allergic diseases using different methods and make contrasted analysis of the results. **Methods** Common allergens were tested by three methods skin prick test, FEIA, Immunoblot in 58 patients from January to April 2006 in our allergy outpatient department and paediatric outpatient department. **Results** There is certain concordance between the three methods, and they have own advantages and disadvantages. Skin prick test is easy to operate with rapid result, but the false positivity is high and it is affected by medicine. For single allergen specific IgE quantitative determination, ImmunoCAP is the most accurate, but its cost is high. As allergens screening tool for newly patients, AllergyScreen has confident results and moderate cost, so it has promising application in clinical. **Conclusion** Three methods were believable, and the doctor could make choice according to the patients, and if the specific Immunotherapy is considered, it is advisable that the doctor should co-evaluate both the in-vivo and in-vitro tests.

Key-words: skin prick, ImmunoCAP, AllergyScreen, allergen, sIgE, allergic disease

The application of AllergyScreen system in Children with Type I Allergy

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The incidence of allergy is very high in the population, and is one of common diseases in paediatrics. The patient has an evident genetic tendency, and Type I (immediate type) allergy is the most common. The specific IgE antibody is produced when the atopic individual is stimulated by the allergen repeatedly. Early detection of allergens and taking measures to avoid contact is the principle and the most effective method for prevention and treatment of allergic diseases. The study is to make contrasted analysis of the AllergyScreen system and Pharmacia UniCAP in detecting Inhalant-allergen-specific IgE in Type I allergy.

Key words: Type I allergy, children, AllergyScreen system

The analysis of serum specific- IgE and allergen in urticaria patients and efficacy of loratadine in treatment of chronic idiopathic urticaria patients

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Abstract

Objective: To investigate the pathogenesis of urticaria and efficacy of loratadine in treatment of 84 chronic idiopathic urticaria patients. **Methods:** Using AllergyScreen Automatic allergy screening system, serum specific IgE and allergens were analyzed in 322 urticaria patients. Furthermore, the efficacy of loratadine in treatment of 84 chronic idiopathic urticaria patients was evaluated. **Results:** At least 1 allergen was positive in 159 of 322 urticaria patients. The positive rate was 49.4% and the average was 1.36 ± 1.70 . Serum specific total IgE was positive in 78 of 322 urticaria patients (24.2%). Symptom and sign scoring were evaluated before and after the treatment. There was no significant difference between 2 and 4 week course of treatment in the change of total symptom and sign scoring. The cure rate and effective rate were 37.2% and 72.2% in treatment group while 39.0% and 78.0% in controls respectively. There was no significant difference between the two groups. The recurrent rate was very low. **Conclusions:** The Germany Allergy Screen Automatic allergy screening system is a convenient tool to quantitatively detect allergen and specific IgE. Domestic- made loratadine is effective and safe in treatment of chronic idiopathic urticaria.

Key words: urticaria, idiopathic, chronic; allergen; immunoglobulin- E; loratadine

Detection of serum specific IgE in children with atopic dermatitis and its clinical significance

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【Abstract】

Objective To explore the etiological factors of atopic dermatitis. **Methods** The levels of total and serum specific IgE (sIgE) in 130 children with atopic dermatitis were determined by means of immunoblot assay. **Results** The total positive rates of total and serum specific IgE in 130 patient s were 65.4% and 58.5% respectively; while the positive rate of 1, 2, 3 and 4 or above 4 kinds of specific IgE were 16.2 %, 20.0%, 14.6% and 23.8% respectively. Mutton was the commonest allergen among food while house dust was the commonest allergen among inhalants. Children below and above 3 years were mainly allergic to food and inhalants respectively. **Conclusion** Immunoblot assay can detect specific allergen accurately and provide reliable evidence for etiological diagnosis, prophylaxis and therapy of allergic diseases.

key words: allergen; specific IgE; atopic dermatitis

Application of Mediwiss AllergyScreen test system in the prevention and treatment of children with asthma

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Abstract

Objective To discuss the application of Mediwiss AllergyScreen test system in the prevention and treatment of children with asthma to diverse extent. **Methods** To detect allergen specific IgE antibodies quantitatively in the serum of 73 children with diverse asthma with immunoblot. **Results** The positivities of house dust and house dust mite(house dust 74.0%, house dust mite 63.0%) are the highest among the different allergen specific IgE antibodies which studied in the children. The difference of positivity of total IgE antibody between groups of children is significant($\chi^2=37.7869$, $P<0.0001$). The allergens are significant different between groups($\chi^2=20.8437$, $P<0.0001$). **Conclusion** House dust and house dust mite are the main cause of asthma attack in children older than 3. There is a direct correlation between the severity of bronchial asthma and the level of serum total IgE in children. And children with positive specific IgE to more than one allergen are usually much severer.

Key words: children; bronchial asthma; allergen specific IgE

application of AllergyScreen allergen test in the pathogenic diagnosis and prevention and treatment of asthma

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Key words: asthma reactive diseases

This study aims to detect sIgE in 81 children with asthma with AllergyScreen in-vitro test system and to discuss the clinical value of sIgE in the pathogenic diagnosis and prevention and treatment of asthma. Result 11 allergens were detected from 81 children with asthma, including house dust, house dust mite, mould mixture, ragweed, mugwort, cat/dog, cypress/elm/plane/willow/cottonwood, cockroach etc. inhalant allergens and milk, beef/mutton, mango, cashew nut, egg etc. food allergens. 7 common allergens (moulds, house dust, ragweed, cat/dog, cypress/elm/plane/willow/cottonwood, milk, beef/mutton) sIgE is significant high in serum of children with asthma. The difference of mould mixture and ragweed, mugwort sIgE between groups is significant statistically ($\chi^2=5.36$, $P<0.05$).

Serum Specific antibodies analysis in 167 patients with allergic rhinitis

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Abstract

Objective: to detect specific antibody (sIgE) in serum with allergic rhinitis, Screen for related allergens and provide basis for clinical diagnosis and treatment. **Methods** to detect inhalant serum specific IgE in 167 patients with allergic rhinitis and on the said basis, choose house dust mite and cockroach to do intracutaneous tests. **Results** the positivities of common inhalant allergens (sIgE) are house dust mite D1 76.65%, cockroach I6 34.73%, cat/dog E1/E5 22.76%, Tree pollen mixture Tx4 17.96%. Compared skin test with serum sIgE, positive correspondent rate of house dust mite is 94.61%, and negative correspondent rate is 86.19%. Positive correspondent rate of cockroach is 86.89%, and negative correspondent rate is 95.28%. The detection rates of house dust mite and cockroach allergen have no difference between two methods ($p>0.05$). **Conclusion:** AllergyScreen allergen in-vitro test system as a tool to measure serum sIgE, has advantages such as less blood, simple operation, safety, and detecting multiallegen etc. So, AllergyScreen test could be used as a tool of pathogenic diagnosis of allergic diseases and one useful indicator for observing therapeutic effect of immunotherapy dynamically.

key words: allergic rhinitis; allergen; intracutaneous test; serum specific antibody

Allergen analysis with AllergyScreen test in 134 patients with allergic rhinitis

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Objective to analyze the serum allergen test results of patients with allergic rhinitis, to learn about the common specific allergen and change of serum total IgE level of allergic diseases, and to discuss the significance of total IgE level for diagnosing diseases.

Methods to detect serum allergen and total IgE level of 134 patients with allergic rhinitis with AllergyScreen test system.

Results among 134 patients with allergic rhinitis, in-vitro allergen test is positive in 92 patients, the detective rate is 68.7%; the commonest inhalant allergen is Der. Pteronyssinus/Der. farinae, the positive is 90%, the next is cat/dog and moulds, their positivities are 16% and 9% respectively. 72 cases have positive total IgE, and the positivity is 54%. 21 cases(29.2%) have serum total IgE level between 100 and 200 kU/L, and 7 cases has negative allergen sIgE; 51 cases(70.8%) have serum total IgE level above 200 kU/L, and 4 cases has negative allergen sIgE.

Conclusion serum total IgE and allergen specific IgE testing could find corresponding allergens, which could provide an important basis for the prevention, diagnosis and treatment of allergic rhinitis. High total IgE level does not mean the patient must suffer with allergic diseases and also normal total IgE level could not rule out the possibility of suffering with allergic diseases, but it is still of important reference value as a diagnosis reference. The diagnosis of allergic diseases could not only base on the laboratory test result, while it should be considered along with anamnesis and current clinical picture.

Key-words: allergic rhinitis; AllergyScreen test; allergen; serum total IgE

Clinical analysis of 312 children with atopic dermatitis

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Key-words: dermatitis; atopic; children

The author has studied 312 children with atopic dermatitis and test serum specific IgE with AllergyScreen test system, and 235 are positive. The details shows as follows:

	Allergen test result of 235 children with AD			
	<1 year old(n=71)	1-3 years old(n=64)	4-7 years old(n=56)	>7 years old(n=44)
Der.	6(1.9)	30(9.6)	54(17.3)	33(10.6)
Pteronyssinus				
House dust	8(2.6)	24(7.7)	51(16.3)	27(8.7)
Ragweed	0	7(2.2)	20(6.4)	22(7.1)
Cat	3(1.0)	29(9.3)	48(15.4)	31(9.9)
Dog	2(0.6)	26(8.3)	41(13.1)	28(9.0)
Cockroach	2(0.6)	8(2.6)	6(1.9)	1(0.3)
Milk	64(20.5)	31(9.9)	18(5.8)	2(0.6)
Egg white	70(22.4)	59(18.9)	43(13.8)	13(4.2)
Codfish	17(5.4)	12(3.8)	8(2.6)	2(0.6)
Soybean	6(1.9)	20(6.4)	1(0.3)	0
Crab	12(3.8)	10(3.2)	7(2.2)	3(1.0)
Shrimp	13(4.2)	9(2.9)	4(1.3)	1(0.3)
Beef	5(1.6)	3(1.0)	2(0.6)	1(0.3)
Mould mixture	2(0.6)	8(2.6)	11(3.5)	9(2.9)

It shows that the main allergens are foods for infants below 1 year old, and the highest is egg white, 22.4%. While the main allergens are inhalant allergens for children of 4-7 years old, and the highest is house dust mite up to 17.3%, while house dust is 16.3%. Therefore, it is important to look for food allergens and pay attention to allergens exist in food and daily necessities, then tick out food allergens and give dietary guidance for infants with AD. While for children of 4-7 year old with AD, it is important to pay attention to environmental sanitation, improve living condition and avoid the repeated attacks of AD.

Serum specific IgE and allergen analysis in patients with chronic urticaria

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Key-words: urticaria; chronic; IgE; allergen test

To analyze the Pathogenic factors of local chronic urticaria and their relationship, the author has detected serum specific IgE (sIgE) and total IgE with AllergyScreen test system (MEDIWISS, Germany) in 298 patients with chronic urticaria and the results show as follows in details:

Allergens of positive sIgE in 198 patients with chronic urticaria

Inhalant allergens	Cases (positivity %)	Food allergens	Cases (positivity %)
House dust	101 (33.9)	Mango	37 (12.4)
Der. Pteronyssinus	79 (26.5)	Cashew nut	31 (10.4)
pollens	45 (15.1)	Lamb	20 (6.7)
Cat	35 (11.7)	Crab	7 (2.3)
Ragweed	35 (11.7)	Milk	6 (2.0)
Cockroach	29 (9.7)	Beef	3 (1.0)
Dog	28 (9.4)	Codfish	2 (0.7)
Mulberry	21 (7.0)	Blue mussel	2 (0.7)
Moulds	8 (2.7)	Shrimp	1 (0.3)
		Egg white	1 (0.3)

It shows that 63.4% patients are allergic to no less than one allergen, which is consistent with Yang Wenbiao's report, both higher than the clinical positivity (30-40%). It may have relation to the low cut-off. Meanwhile, it indicates that part chronic urticaria has something to do with Type I Allergy which is mediated by IgE. The positivity of inhalant allergen sIgE is significant higher than food allergen. Among 9 inhalant allergen sIgEs, the positivities of house dust, Der. Pteronyssinus and pollens are higher, 33.9%, 26.5% and 15.21% respectively. And the positivities of mango, cashew nut and lamb are higher, 12.4%, 10.4% and 6.7%, among 10 food allergen sIgEs, while the positivities of milk, beef, codfish and shrimp are lower. The author has followed up part patients with much higher sIgE, and found that when the patient avoid contacting with or ingesting suspected allergens, the attacks and severity will reduced and some even could achieve recovery. Therefore, it seems that the result of much higher sIgE is reliable.

Serum specific allergen analysis in 100 children with atopic dermatitis

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Key-words: atopic dermatitis; serum; specific allergen

Studies show that atopic dermatitis has relation to Type I Allergy mediated by IgE, and environmental factor plays an important role in the pathogenesis. The author has test allergens in 100 children with atopic dermatitis (AD) and 20 healthy children. The results show as follows in details:

Allergens test result in 100 children with AD cases(%)

allergens	positivity	allergens	positivity
House dust	59 (59)	Lamb	18 (18)
Der. Pteronyssinus	47 (47)	Milk	9 (9)
Cat	34 (34)	Beef	4 (4)
pollens	15 (15)	Cashew nut	4 (4)
Moulds	13 (13)	Mango	3 (3)
Dog	13 (13)	Crab	3 (3)
Ragweed	6 (6)	Codfish	2 (2)
Cockroach	5 (5)	Shrimp	0 (0)
Mulberry	2 (2)	Blue mussel	0 (0)
		Egg white	0 (0)

Allergens test results in children with AD of different groups

Groups	n (cases)	Inhalant allergens (kinds)	Food allergens (kinds)
0-2 years old	30	42 (67)	21 (33)
3-6 years old	46	98 (85)	16 (14)
7-12 years old	24	54 (90)	6 (10)

groups	n (cases)	slgE (kinds)	+ slgE (kinds)	- Total IgE (kinds)	+ Total IgE (kinds)
Family history +	32	103 ¹⁾	505	28 ²⁾	4
Family history -	68	133 ¹⁾	1159	40 ²⁾	28

1) comparison of the positivities of slgE between groups of different family history $\chi^2=16.790, P<0.001$

2) comparison of the positivities of total IgE $\chi^2=8.23, P<0.01$

Comparison between patients and control group, the positivities of slgE have significant difference statistically ($\chi^2=35.4, P<0.001$). So do total IgE ($\chi^2=19.4, P<0.001$)

Detection of allergen and treatment of atopic dermatitis by polysaccharide nucleic acid fraction of bacillus calmette guerin combined with triamcinolone acetonide and econazole nitrate cream

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Abstract

Objective To detect the allergens and assess the treatment of atopic dermatitis (AD) by polysaccharide nucleic acid fraction of bacillus calmette (BCG-PSN) combined with triamcinolone acetonide and econazole nitrate cream. **Methods** In vitro AllergyScreen test was used to detect allergens in 68 cases of AD. The patients were divided into two groups, the treatment group received BCG-PSN combined with triamcinolone acetonide and econazole nitrate cream, whereas the control group received triamcinolone acetonide and econazole nitrate cream only. **Results** The positive rate of AD allergen was 91.2%, higher in the inhalant (74.2%) than that of food allergen (28.5%, $P < 0.05$). Among the inhalant allergens, dust mite was the highest, and next followed by dog-cat skin or hair piecemeal, cockroach excrete etc. The effective rate was significantly higher in the treatment group (88.2%) than that of the control group (58.8%, $P < 0.05$). The eczema area and severity index (EASI) and visual analogue scale (VAS) scores were also significantly higher in the treatment group than those in the control group after 3 weeks ($P < 0.01$). **Conclusion** Dust mites are the most common allergens in AD. Combined BCG-PSN and triamcinolone acetonide and econazole nitrate cream therapy is superior to triamcinolone acetonide and econazole nitrate cream only.

Key-words: Dermatitis, atopic; detection; allergen; polysaccharide nucleic acid fraction of bacillus calmette guerin; triamcinolone acetonide and econazole nitrate cream

Analysis report of allergen test in 374 patients with asthma

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Objective To find out the proportion of exogenous cause of asthma in patients with asthma from Shenyang via screening allergens of patients with asthma; which environmental allergens have something to do with asthma, which allergens are the main, and the possibility of one patient allergic to kinds of allergens etc, which provide scientific basis for the prevention and treatment of asthma for the future. **Methods** To use AllergyScreen test system (model: RRE100) manufactured by Mediwiss. Using venous serum 250ul to test 31 common allergens in 2.5 hours. **Result** To screen allergens in 374 patients (male 201, female 173, 15-80ys, mean age 45ys) with asthma coming to outpatient department during May 2005 to May 2007. It found that there are 140 patients with positive sIgE, 37.43%, mainly house dust mite 66 cases, 33.20%, followed by cat/dog 48, 23.41%; then followed by mugwort/ragweed 17, 8.29%; and then followed by beef/lamb and cockroach 15, 7.32% respectively. 84 patients (60.0%) are allergic to only one allergen; 24 patients (17.14%) are allergic to 2 allergens; 17 patients(12.14%) are allergic to 3 allergens. 4 patients(2.86%) are allergic to no less than 4 allergens. **Conclusion** The authors found that of 374 patients with asthma, 37.43% could found out specific allergens, mainly dust mite, 33.20%; followed by mugwort and ragweed, 8.29%. It is commonest to be allergic to one allergen, 60%; followed by being allergic to 2 allergens, 17.14%. It is rare to be allergic to no less than 4 allergens, only 2.86%. It said seems that much attention should be paid to dust mite, cat/dog, mugwort and ragweed during prevention and treatment of asthma.

Analysis of serum total IgE and specific IgE in patients with allergic diseases in Baoan district

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Abstract

Objective To analyze serum allergen specific IgE and total IgE in patients with allergic diseases to provide reliable scientific basis for diagnosing and preventing allergic diseases better. **Methods** Selecting 490 patients with allergic diseases coming to major hospital in Bao'an district during 2005 to 2006, and using AllergyScreen test system(MEDIWISS, Germany) to detect human serum allergen specific IgE and total IgE. **Results** Of 490 patients with allergic diseases, 96 (19.6%) are allergic to only one allergen; and 420(85.7%) are allergic to no less than one allergen. The first three allergens with high positivity are house dust mite (38.6%), tree pollen mix(30.2%) and house dust(26.7%) respectively in inhalant group; and the first three allergens are shrimp(24.3%), pineapple(20.2%) and egg white(20.0%) respectively in food group. **Conclusion** Detecting serum total IgE and specific IgE with Immunoblot which has good specificity and high sensitivity could help the doctor confirm the atopy and provide basis for the prevention, diagnosis and treatment of allergic diseases.

Key-words: allergen; allergic diseases; immunoblot; IgE

Allergen and serum IgE antibodies testing in 380 patients with chronic urticaria

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The author has detected specific IgE antibody in 380 patients with chronic urticaria coming to the department to find out the food and environmental allergens of chronic urticaria, which provide pathogenic diagnosing basis and help for treating patients with chronic urticaria. Using AllergyScreen test system to detect sIgE and the results show as follows in details:

Serum IgE antibody test result in 380 patients with chronic urticaria

Inhalant group			Food group		
Allergen	Positive cases	Positivity(%)	Allergen	Positive cases	Positivity(%)
House dust mite	122	32.1	Egg white	2	0.5
House dust	63	16.6	Milk	4	1.1
Cat	36	9.5	Wheat	2	0.5
Dog	30	7.9	Crab	18	4.7
Ragweed	37	9.7	Shrimp	4	1.1
Mulberry	14	3.7	Beef	2	0.5
Cockroach	30	7.9	Blue mussel	2	0.5
Moulds	8	2.1	Lamb	11	2.9
Tree pollen mix	36	9.5	Mango	5	1.3
			Cashew nut	32	8.4

There are 220 patients (57.9%) with positive allergen IgE, and 114(30%) are allergic to only one allergen, 47(12.4) are allergic to 2 allergens, and 59(15.5%) are allergic to no less than 3 allergens. And the study found that the positivity of serum total IgE is 69.7%, inhalant allergens 56.1%(213/380) and food allergens 16.6%(63/380).

Cause analysis of 80 children with childhood atopic dermatitis and measurement of prevention and treatment

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Abstract

Objective: To analyze the cause, clinical manifestations of children with childhood atopic dermatitis, and take corresponding means of prevention and treatment to enhance the effectiveness according to the cause and characteristic skin lesions. **Methods:** To analyze and summarize 80 children with childhood atopic dermatitis retrospectively. **Results:** The causes of childhood atopic dermatitis are mainly heredity, inhalant and food allergens, local stimuli, mental factors etc. **Conclusion:** To take active treatment and preventive measurement could improve effectiveness by combining traditional Chinese medicine and western medicine with drugs and external application.

Key-words: atopic dermatitis, children, cause, prevention and treatment