

알레르기 피부 단자 검사를 통한 흡입 항원과 음식 항원의 교차반응에 관한 분석

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Analysis of Cross-Reaction between Inhalant and Food Allergens Using Skin Prick Test of Allergens

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—ABSTRACT —

Background and Objectives : A cross-reaction between foods and other allergens can be dangerous for asthmatics and, in severe cases, can result in the onset of anaphylactic shock and can aggravate symptoms for patients with atopic dermatitis and allergic rhinitis. This study aimed to find out the cross-reactivity between inhalant and food allergens through retrospective review of large number of cases showing positive allergen skin prick test. **Materials and Method** : Total 3,522 cases showing positive allergen skin prick test from Jan 1991 to Jan 2001 at Allergy Clinic in St. Benedict Hospital, Pusan, Korea were analyzed retrospectively. The allergen skin prick test consisted of 55 allergen, dividing into groups of house dust and mite, epithelials, pollens, molds, and foods. **Results** : The common offending allergen groups were dust and mites (56.0%), pollens (43.3%), and epithelials (39.3%) group. The most common offending single allergen was D. fariane (48.7%), followed by D. pteronyssinus, straw dust, cat fur, dog hair, alder and birch pollen, cockroach. The most common offending allergen among pollen group was alder pollen (26.2%), followed by birch, hazel, beech, mugwort. The common cross-reactive groups in patients with positive food allergen was dust and mites (51.1%), followed by pollens (35.7%), epithelials (20%), molds (10%) group. Common food allergens in patients with positive dust and mites allergen were shrimp and crab. And the common food allergens in patients with positive pollen group were bean and wheat for alder and hazel pollen, and were apple and peach for birch pollen. **Conclusion** : These result suggest a cluster of cross-reaction between dust and mites and crustacea like shrimp and crab, and between birch and apple, peach. (J Clinical Otolaryngol 2003;14:275-281)

KEY WORDS : Cross-reactivity · Oral allergy syndrome · Skin prick tests.

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Table 2. List of allergens for skin test

Dust & mites	Epithelials	Pollens	Foods	Molds
D. farinae	Chicken feather	Beech	Tomato	Rhizopus nigricans
D. pteronyssinus	Cow hair	Hazel	Apple	A. fumigatus
Straw dust	Dog hair	Alder	Peach	A. alternata
	Cat fur	Elder	Strawberry	P. notatum
	Rabbit fur	Birch	Cod	Candida albicans
	Sheep wool	Mugwort	Mackerel	Penicilla
	Feathers mix	Ragweed	Crab	Fusarium species
	Cockroach	Chrysanthemum	Lobster	Hops
		Japanes cedar	Shrimp	
		Pine	Beef-veal	
		Poplar	Pork-bacon	
		Cotton	Egg whole	
		Silk	Milk	
		Kapok	Chocolate	
		Flax	Cheese	
			Soy bean	
			Rice grain	
			Wheat grain	
			Buckwheat	

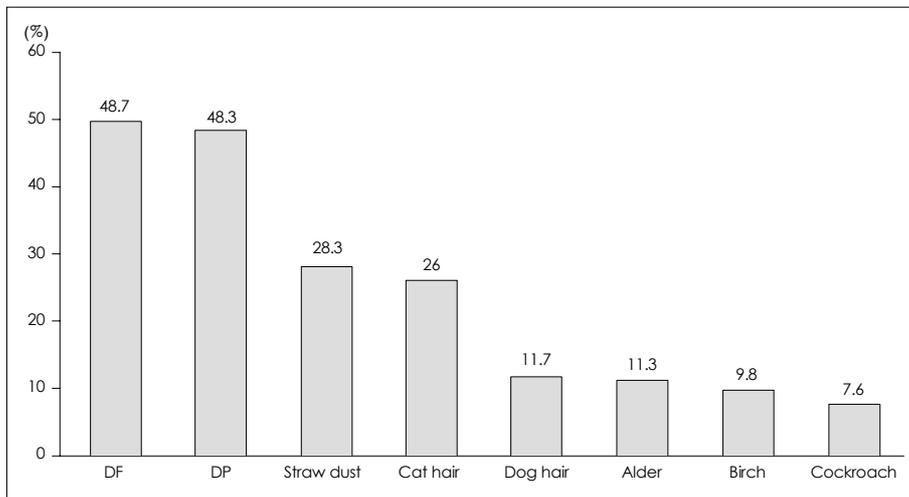


Fig. 1. The incidence of common offending single allergen in skin prick test (n=3,522).

(pollens), (molds), (foods)
(Table 2).

결 과

알레르기 원인 항원의 분포 양상

56.0% 가
43.3%,
39.3%, 26.9%, 11.5%

Table 3. The frequencies of positive reaction to major allergens in each allergen group

Allergens	No. of case	Percent (%)
Dusts and mites		
D. farinae	1,714	48.7
D. pteronyssinus	1,701	48.3
Straw dust	997	28.3
Cat fur	914	26.0
Dog hair	411	11.7
Cockroach	267	7.6
Feathers mix	204	5.8
Sheep wool	162	4.6
Cow hair	152	4.3
Pollens		
Alder pollen	399	11.3
Birch pollen	345	9.8
Hazel pollen	280	8.0
Beech pollen	260	7.4
Mugwort pollen	257	7.3
Elder pollen	165	4.7
Chrysanthemum	157	4.5
Kapok	152	4.3
Others*		
Shrimp	182	5.2
Crab	172	4.9
Mackerel	148	4.2
Buckwheat	148	4.2
Fusarium species	145	4.1

The allergens to which the frequencies of positive reaction in total patients are more 4%. Others* include foods and molds

(Der-
matophagoides farinae)가 48.7%
가
(Dermatophagoides pteronyssinus)가 48.3%
(straw dust), (cat fur),
(dog hair), (alder), (birch),
(cockroach) (Fig. 1).
(Table 3).

흡입 항원과 음식 항원의 교차반응 양상

가

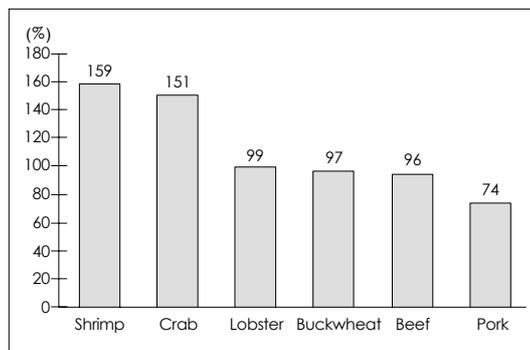


Fig. 2. The common food allergen in patients with positive dust and mites allergen.

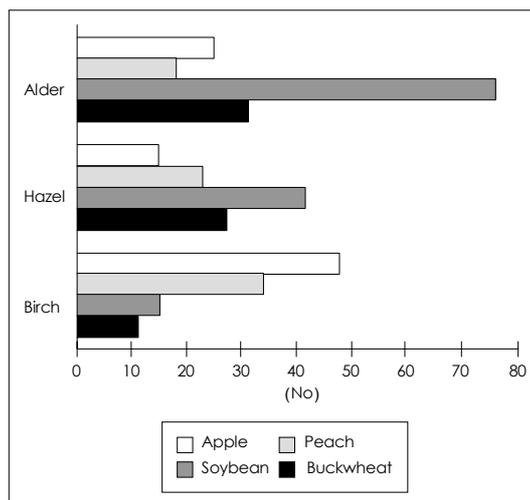


Fig. 3. The common food allergens in patients with positive pollen group.

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 116 (51.1%) 가 ,
 81 (35.7%), 20 (8.8%),
 10 (4.4%) .
 (shrimp), (crab), 가 (lobster), 가 ,
 (buckwheat), (beef), (pork) 가 ,
 (Fig. 2). 가
 (soybean) 76 (21.5%), 42 (15.6%) 가
 (3.7%) 가
 (apple) (cross - reaction) .
 (peach) 48 (16.2%), 34 (14.9%)
 (7.8%)
 (Fig. 3). ,⁴⁾ (pollinosis) 가
 가 20 oral allergy syndrome
 가 (OAS) 23~47% . OAS
 1942 가
 가
고 찰
⁵⁾⁶⁾ OAS , ,
³⁾ ,
 66.7% ,
 36.5% ,
 E , , ,
 가 ,
 Dermatophagoides farinae Dermatophagoides pte-
 ronyssinus가 가 ,
 15~20 ,⁷⁾ ⁸⁾ ,
 가 가
 51.1%, 35.7% ,
 8.8%, 4.4%

가
 가
 Penaeus
 aztecus Pen a1(36 kDa), Penaeus indicus
 Pen i1(34 kDa), Metapenaeus ensis가
 Met e1(34 kDa) 가

결론

5)
 Malus domestica Mal d1
 Bet v1, Mal d2 Bet v2
 Bet v1 DNA level
 18 kDa 75% (homology)
 Api g1(16 kDa) 60%
 Mal d1, Bet v1 Api g1

중심 단어 :

(pathogenesis - related proteins) group
 Mal d2 Bet v2 profilin
 15 kDa
 (panallergen)
 Delbourg¹²⁾ Latex 가 가
 33 kDa
 37 kDa
 가
 가
 가 가
 가

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