

The prevalence and features of systemic hypersensitivity reactions to drug skin tests

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Background/Aims: A drug skin test such as skin prick test and intradermal test is known to be a relatively safe method for evaluating allergic reactions to drugs, but it may rarely cause systemic reactions. However, studies on the systemic hypersensitivity reactions during drug skin tests have not been reported in Korea. We investigated the systemic hypersensitivity reactions during the drug skin tests conducted at a teaching university hospital. **Methods:** All the medical records of drug skin test results and responses were retrospectively analyzed from the healthcare information system in Seoul National University Bundang Hospital (December 2003 ~ July 2019). **Results:** A total of 381 patients (age 51±2 years old, male:female=1:1.7) underwent drug skin tests. 148 (38.8%) showed positive response to drug skin tests. Among them, total of 18 patients (12%) had systemic hypersensitivity reactions (age 43±1 years old, male:female=1:2.0). The most frequent culprit drug was antibiotics (ampicillin 4, cephalosporin 3, quinolone 1, antiprotazoal agent 1) followed by NSAIDs (3), H2 blockers (3), contrast media for CT (2), and sedative (1). Most of symptoms were improved without any treatment, but 3 patients (0.8% of total drug skin test cases, 2.0% among positive responders to drug skin tests) were treated with epinephrine, methylprednisolone, and chlorpheniramine. **Conclusions:** This study shows that drug skin tests using various drugs may cause severe systemic hypersensitivity reactions which needs close monitoring. Physicians and medical staffs should be aware of possible systemic hypersensitivity reactions during drug skin tests.

Table 1. Demographic characteristics of study subjects who underwent drug skin tests.

	Drug skin test (+)	Drug skin test (-)
n	148 (38.8%)	233 (61.2%)
Age (years old)	48 ± 2	50 ± 2
Male	55 (37.8 %)	86 (37.3%)
History of allergic diseases	24 (16.2%)	37 (15.9%)
Chronic urticaria	1	0
Food allergy	1	1
Asthma	2	3
Atopic dermatitis	2	2
Angioedema	1	0
Previously known contrast media hypersensitivity	1	0
Allergic rhinitis	1	0
Contact dermatitis	1	1
Dermographism	1	0
Previously known drug allergy	1	0
Allergic conjunctivitis	1	1
Stevens-Johnson syndrome	1	1
Eczema	0	1

Table 2. Demographic characteristics of study subjects who showed positive response to drug skin tests.

	Systemic reaction (+)	Systemic reaction (-)
n	18 (12.2%)	130 (87.8%)
Age	43 ± 1 years	50 ± 2 years
Male	9 (50.0%)	86 (65.8%)
History of allergic diseases	1 (5.6%)	21 (16.2%)
Chronic urticaria	1	0
Food allergy	1	1
Asthma	0	2
Atopic dermatitis	0	2
Angioedema	0	1
Previously known contrast media hypersensitivity	0	1
Allergic rhinitis	0	1
Contact dermatitis	0	1
Dermographism	0	1
Previously known drug allergy	0	1
Allergic conjunctivitis	0	1
Stevens-Johnson syndrome	0	1

Figure 1. Culprit drugs which caused systemic symptoms.

