WISC 2014

WAO International Scientific Conference (WISC) and the XLI (41th) Annual Meeting of the Brazilian Association of Allergy and Immunology (ASBAI)

22-3SY Chronic Urticaria and Atopic Dermatitis in the Elderly
11:00 AM - 12:30 PM, Sul America, Sala B1

Chronic Urticaria and Atopic Dermatitis in the Elderly

Chairpersons: Dr Ignacio J. Ansotegui, Hospital Quiron Bizkaia, Spain
Dr Hae Ran Lee, South Korea, Korea

COI Disclosure
In relation to this presentation, I declare the following, real or perceived conflicts of interest:

Research support from
- GlaxoSmithKline
- Japan Boehringer Ingelheim
- Tanabe-Mitsubishi
- Shionogi
- Sanofi
- Kyouwahakkou-Kirin

Consultancy fees from
- Novartis Pharma
- Shimense Healthcare

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Department of Dermatology,
Hiroshima University, Japan
Learning Objectives:

1. To know prevalence of atopic dermatitis and urticaria in elderly populations
2. To know clinical manifestations of atopic dermatitis and urticaria in elderly patients
3. To know prognosis of chronic urticaria and type I allergy developed in elderly ages
4. To know diagnosis of angioedema in elderly patients
Number of patients who visited Dermatology clinic - Nationwide study in Japan

(total number of patients in clinics studied)

Age

Atopic dermatitis
Tinea pedis
Urticaria and angioedema

Total Japanese population

Surveillance of atopic dermatitis by Web questionnaire

Prevalence of atopic dermatitis (self-reported) in Victoria, Australia

- **Age**: 20 years
- **Sex**: M:F = 48:52
- **Subjects number**: 10,347
- **Research period**: 2014/Mar/26-28

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**Age of the subjects**

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20-24: 5%
25-29: 8%
30-34: 8%
35-39: 9%
40-44: 9%
45-49: 7%
50-54: 9%
55-59: 7%
60+: 38%
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**“Have you ever diagnosed as atopic dermatitis?”**

- Yes: 14.5%
- No: 85.5%

*The question as been validated in comparison with questionnaire by UK working group*

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**Prevalence of atopic dermatitis (self-reported) in Victoria, Australia**

Number of patients who consulted clinic for atopic dermatitis in Japan – nation wide study based on questionnaire for general population

Japanese population in 2007 (x1/5,000)
Japanese population in 2012 (x1/5,000)
Japanese population in 2001 (x1/5,000)
Number of patients who visited Dermatology clinic - Nationwide study in Japan

Age

Prevalence of CSU in age groups and sex

Prevalence of patients with CSU who visited Hiroshima University outpatient clinic (n=201) (adjusted with Japanese population in 2006)

The analysis of out patients clinic in Hiroshima University revealed the prevalence of CSU is low in elderly people.
Clinical manifestations of atopic dermatitis in elderly patients

1-3 are courtesy of Dr Tanei (Tokyo Metropolitan Geriatric Hospital, Japan)

① 61 y-old F
② 79 y-old M
③ 61 y-old F
④ 77 y-old F

Eczematous dermatitis predominantly in the face, neck, trunk, extensor and flexure site of extremities but less commonly in the antecubital and popliteal areas.
Clinical manifestations of atopic dermatitis in elderly patients


- Diagnosed 16 patients as AD out of 4,100 cases of aged (≥ 65 years old) patients with various types of eczema and dermatitis (0.39%).

- M:F=3:1

- Eczematous dermatitis was observed predominantly in the face, neck, trunk, extensor and flexure site of extremities, but less commonly in the antecubital and popliteal areas.

- Total serum IgE: 8,810±13,511 IU/ml (5~53,605)
  
  Four of them were relatively low: 5, 160, 574, 714 IU/ml

- Skin biopsy revealed the increase of mast cells and dermal dendritic cells bearing IgE
Immunohistological manifestations of atopic dermatitis in elderly patients


Mast cell tryptase and IgE

Double staining of IgE (red) and CD11c (green)

Mast cell and IgE⁺ cell infiltration is increased in a lichenified skin lesion of a patient with extrinsic elderly AD.

Coexistence of IgE-bearing mast cells (red), dermal dendritic cells (green) and IgE-bearing dermal dendritic cells (yellow).

Courtesy of Dr Tanei (Tokyo Metropolitan Geriatric Hospital, Japan)
Urticaria observed in elderly patients

- 67yr M Anaphylaxis
- 80yr F CSU
- 84yr M Mechanical U
- 69yr F CSU
- 69yr M CSU
- 84yr M Mechanical U

76yr Acute U
Percentage of patients with CSU whose symptoms were not sufficiently suppressed by a standard dose of antihistamine in Hiroshima University Hospital

The prevalence of urticaria is low, but the population of refractory cases among age group is similar or even worse in elderly patients
Prognosis of patients with CSU, not sufficiently responded to a standard dose of antihistamines


The improvement rate of <60 years-old patients appears to be slightly higher, but the difference was not significant.

Time course of acquired type I allergy against hydrolyzed wheat antigens

From to 2005 to 2010, approximately 46.5 million soap cakes containing hydrolyzed wheat protein have been sold in Japan and more than 2,000 individuals have been identified as sensitized with the wheat protein.
Time course of acquired type I allergy against hydrolyzed wheat antigens

Type I allergy acquired in old age tends to be prolonged.
Atopic dermatitis in elderly patients tends to be mild and patients tend to be less steroid-phobic as compared with younger populations of the patients.
Clinical manifestations of atopic dermatitis in elderly patients – Age of onset and association with atopic diathesis

The onset of AD was at 60 years old or later in 40% of the patients at ≥60.

Data were kindly provided by Dr Tanei R (Tanei R. J Clin Med, in press)

The onset of AD was at 60 years old or later in 40% of the patients at ≥60.
# Classification of angioedema

## 1. Bradykinin mediated

<table>
<thead>
<tr>
<th>Inheritance</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-INH deficiency/defect</td>
<td>• HAE-1</td>
<td>• Acquired angioedema due to C1-INH deficiency/consumption</td>
</tr>
<tr>
<td></td>
<td>• HAE-2</td>
<td></td>
</tr>
<tr>
<td>Normal C1-INH</td>
<td>• HAE with normal C1-INH</td>
<td>• Drug-induced angioedema (eg, ACEI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Non-classified angioedema</td>
</tr>
</tbody>
</table>

## 2. Mast cell mediated, normal C1-INH

<table>
<thead>
<tr>
<th>IgE mediated</th>
<th>Non-IgE mediated</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anaphylaxis</td>
<td>• Chronic spontaneous urticaria</td>
</tr>
<tr>
<td>• IgE-mediated urticaria</td>
<td>• Inducible urticarias</td>
</tr>
<tr>
<td></td>
<td>• Non-classified angioedema</td>
</tr>
</tbody>
</table>

## 3. Idiopathic, normal C1-INH, negative inheritance

- Non-classified angioedema

Angioedema may be induced and/or exacerbated by either decrease of C1-INH or ACE inhibitor.

- ACE inhibitor may not induce angioedema immediately after the intake of medication, but after a certain duration, such as a few days, weeks, or months.
- The risk of ARB cannot be totally excluded, but much lower than that of ACE inhibitor.

- C1-INH activity may decrease by autoantibody against C1-INH or consumption by lymph-proliferative diseases.
70-year-old male. Tongue swelling on the 5\textsuperscript{th} day of the treatment with lisinopril(10). No effect of corticosteroid and antihistamine. BP=200/90mmHg

Risk factors (odds ratio):
- black race (2.88)
- history of drug rash (3.78)
- age > 65 years (1.6)
- seasonal allergies (1.79)
1. The prevalence of AD and urticaria in elderly populations is low at present.
2. However, elderly patients with AD may increase either by non-remittance of young adults or the increase of old age onset in future.
3. Elderly AD preserves many characteristics observed in young patients, but tends to mild and avoid eruptions in cubital and popliteal regions.
4. Populations of refractory case in CSU are the same (ca. 60%) throughout the age up to 80, but diminished in patients in 80s or older.
5. On the other hand, type I allergy obtained at old age tends to remain for longer than that in young age.
6. The risk of developing angioedema by continuous use of ACE-I is higher (odds ratio: 1.6) in >65 years old and should be avoided, especially those with HAE and/or lympho-proliferative diseases.