

# WISC 2014

9 December 2014  
Rio de Janeiro, Brazil

WAO International Scientific Conference (WISC) and  
the XLI (41<sup>th</sup>) 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
- Novartis Pharma
- Shimense Healthcare

#### *Consultancy fees from*

- GlaxoSmithKline
- Sanofi
- MSD

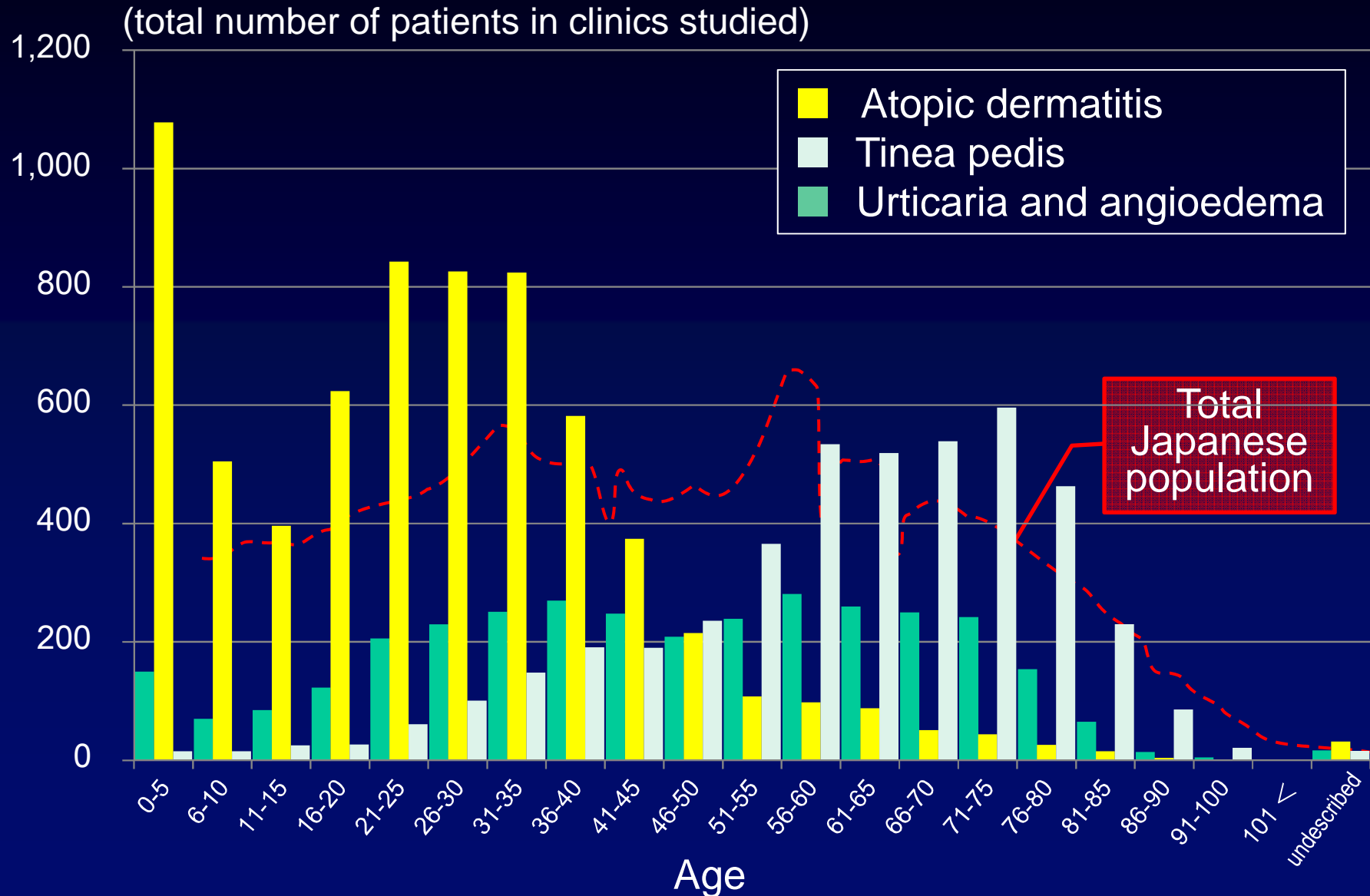
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Hiroshima University, Japan



# Learning Objectives:

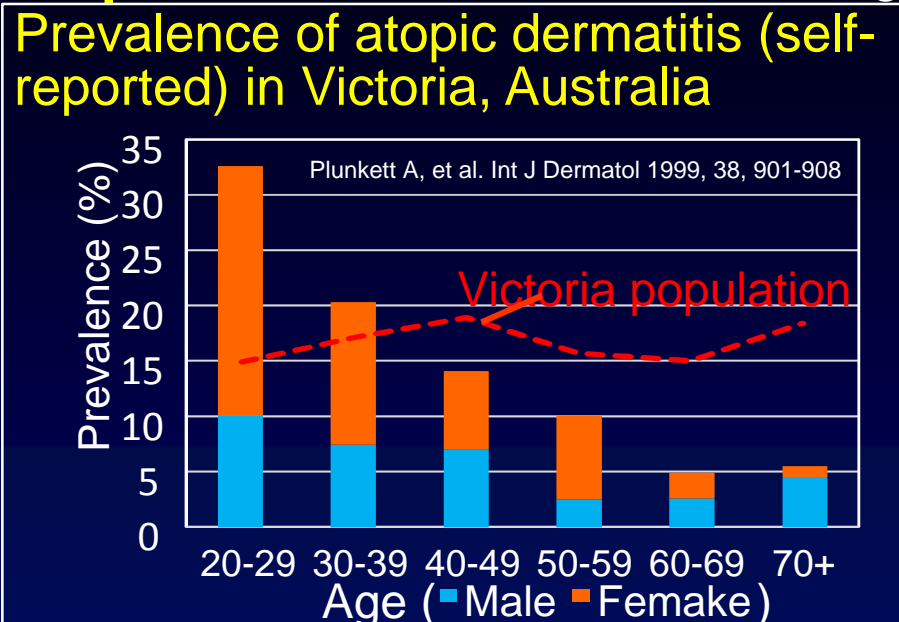
1. To know prevalence of atopic dermatitis and urticaria in elderly populations
2. To know clinical manifestations of atopic dermatitis and urticaria in elderly patients
3. To know prognosis of chronic urticaria and type I allergy developed in elderly ages
4. To know diagnosis of angioedema in elderly patients

# Number of patients who visited Dermatology clinic - Nationwide study in Japan

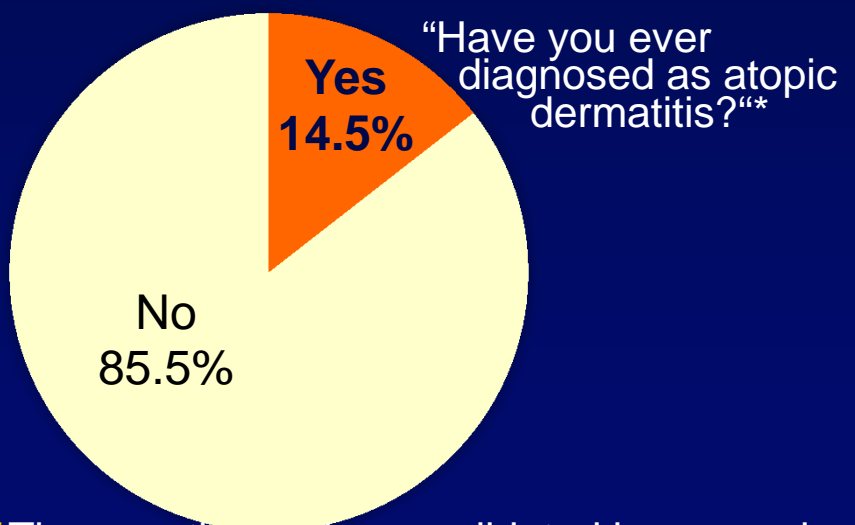
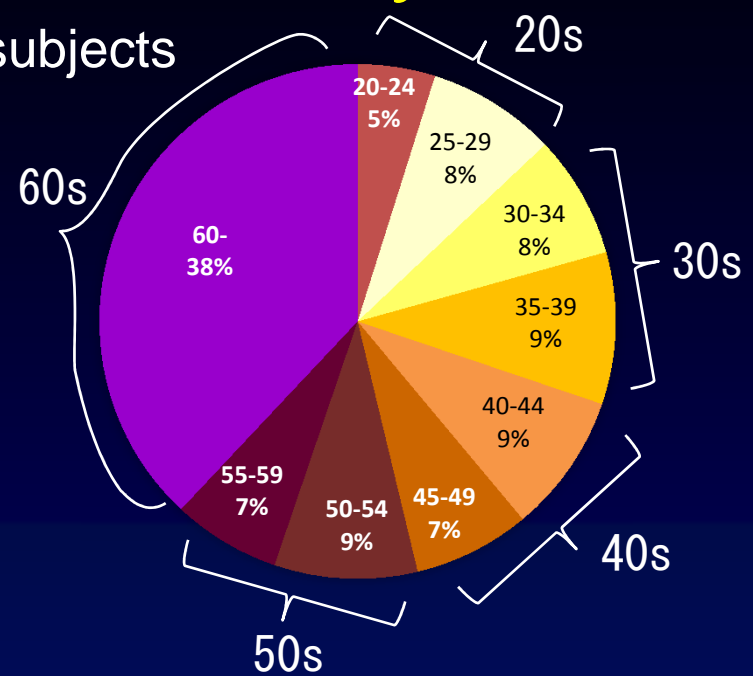


Depicted based on data reported by Furue M, et al. J Dermatol 38: 310-320, 2011

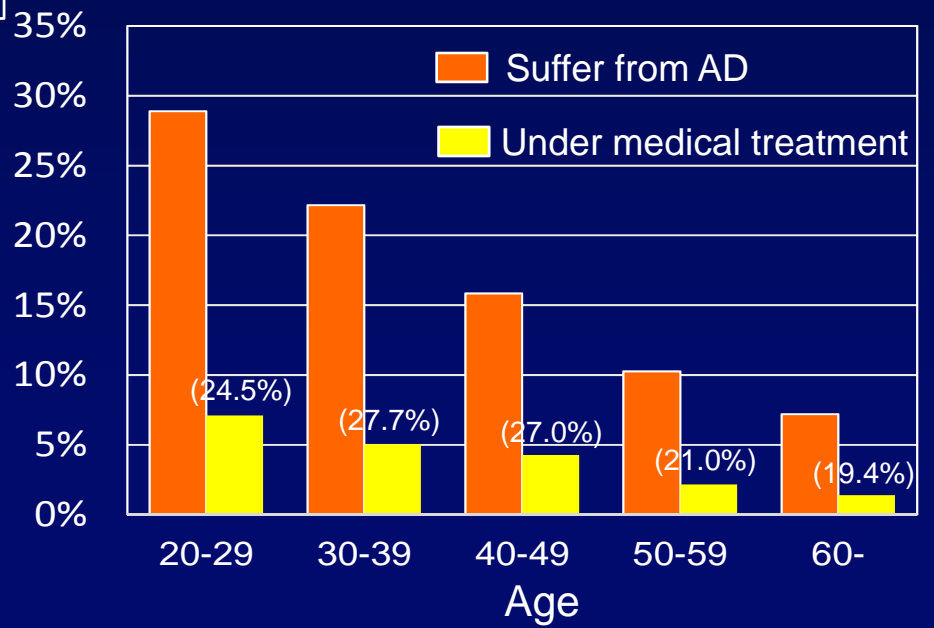
# Surveillance of atopic dermatitis by Web questionnaire



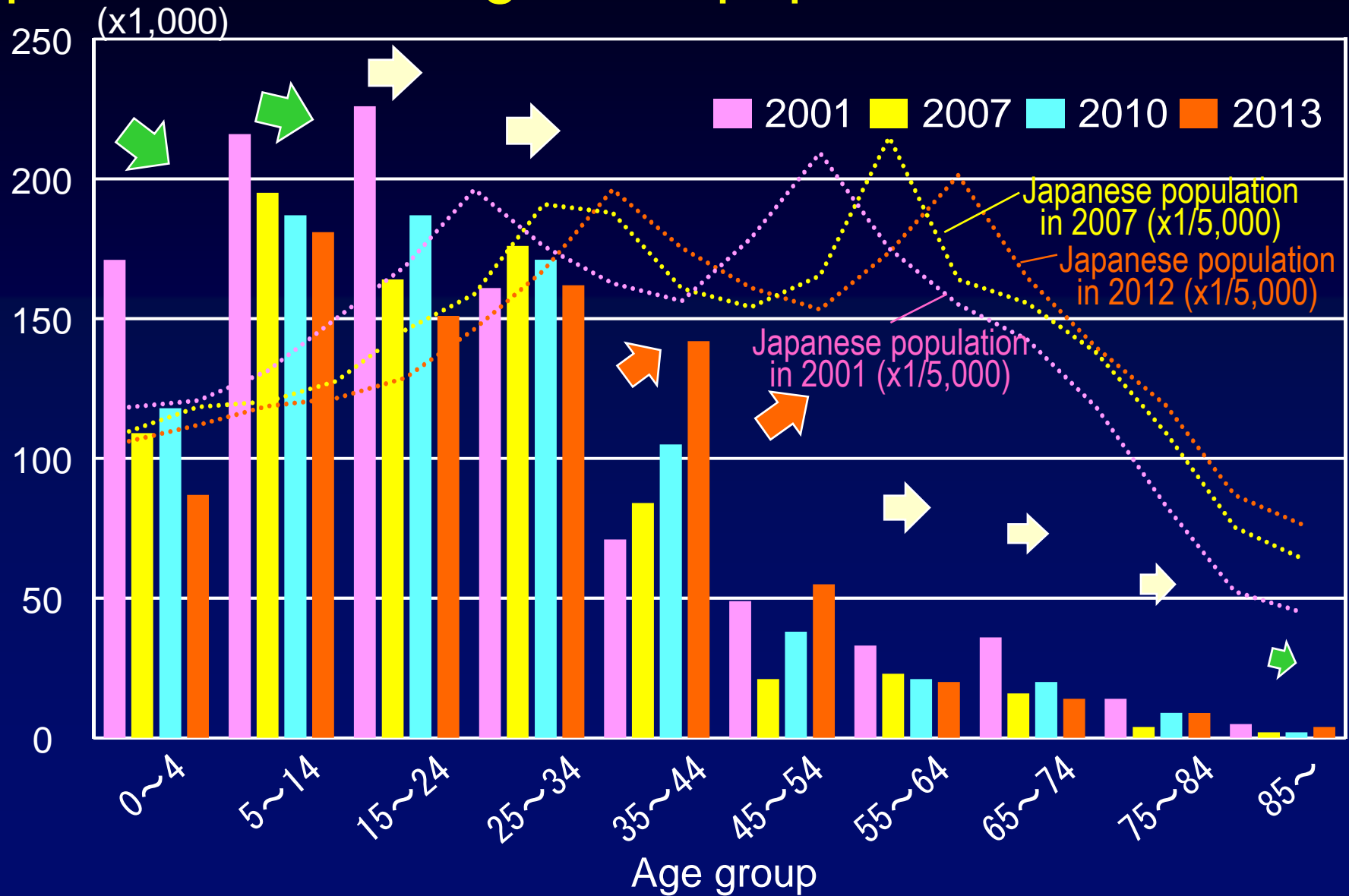
Age of the subjects



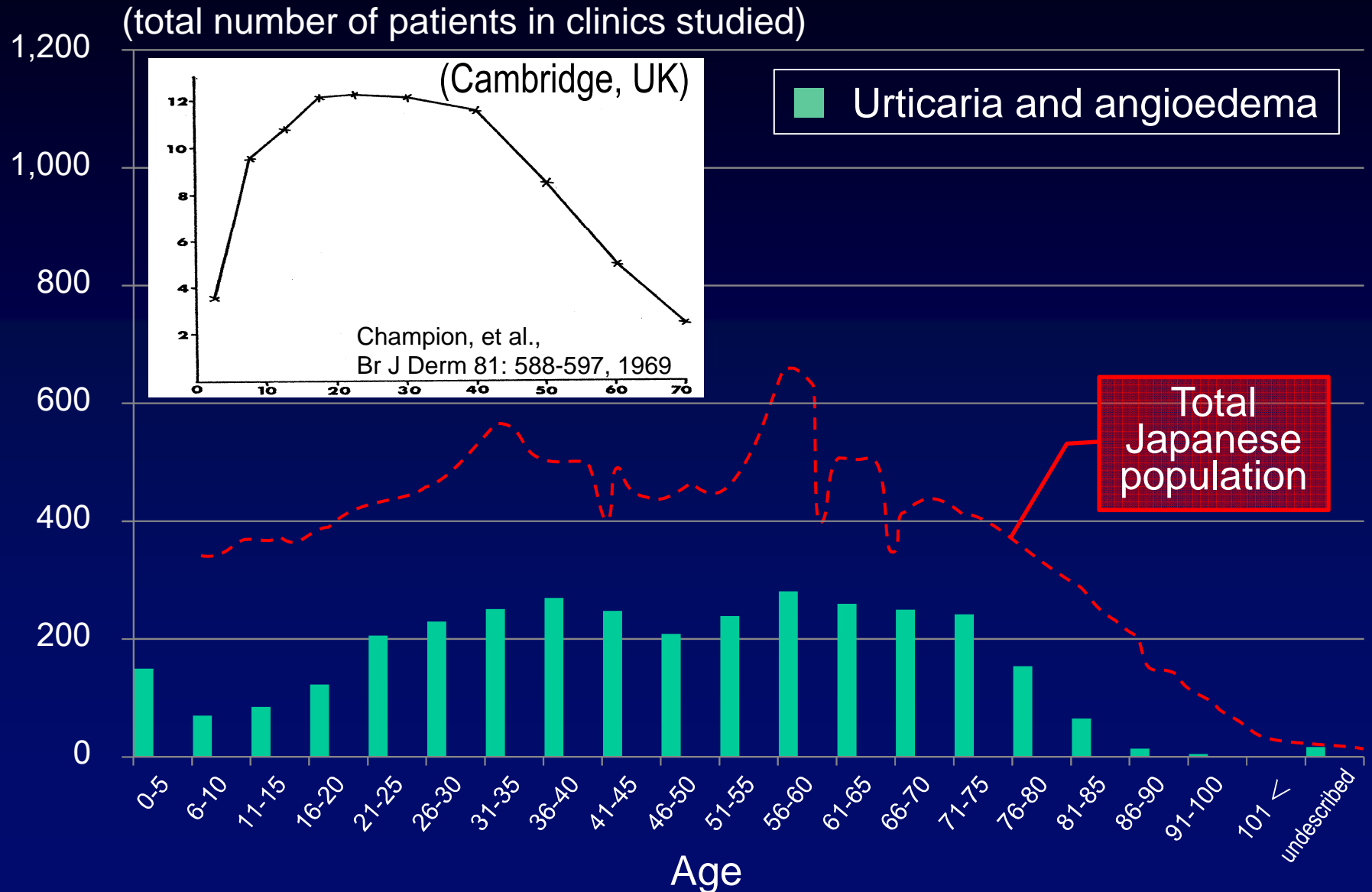
\*The question as been validated in comparison with questionnaire by UK working group



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



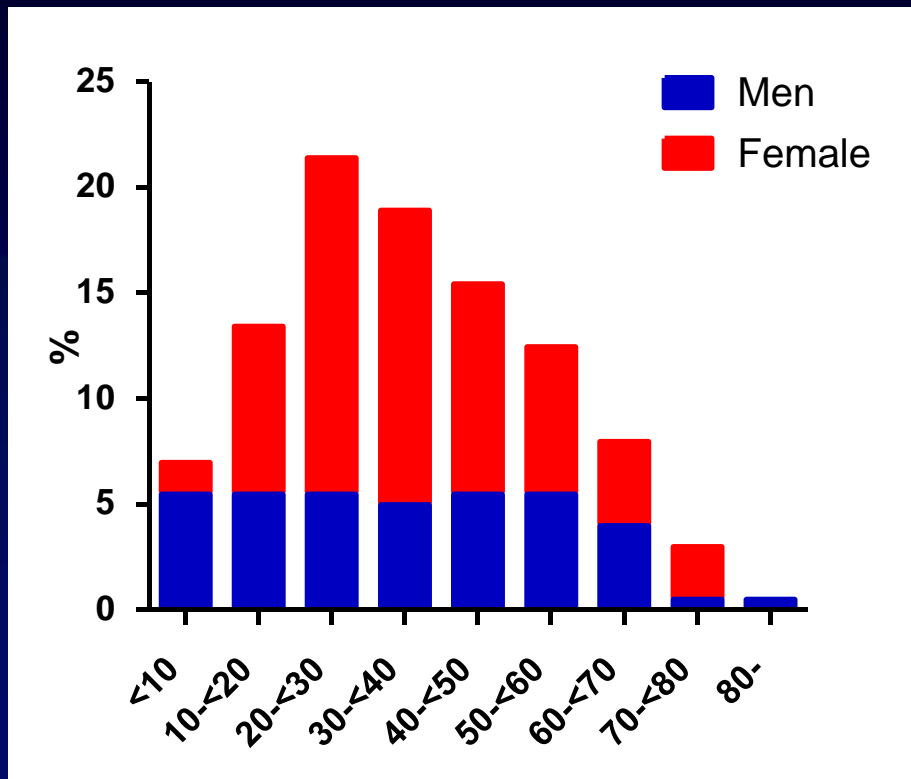
# Number of patients who visited Dermatology clinic - Nationwide study in Japan



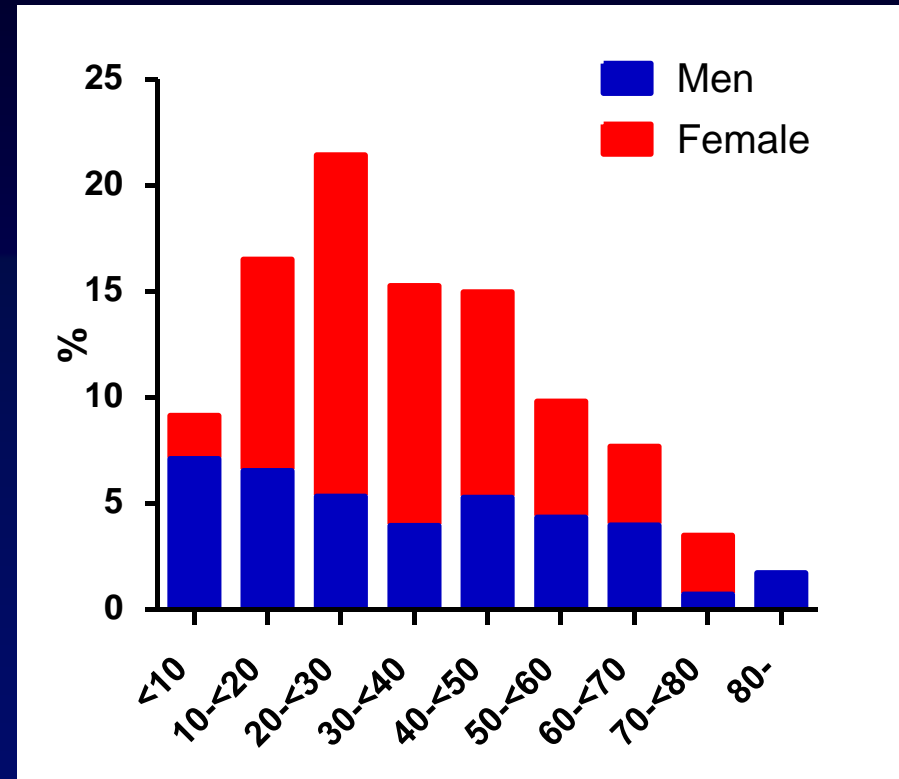
Depicted based on data reported by Furue M, et al. J Dermatol 38: 310-320, 2011

# Prevalence of CSU in age groups and sex

Prevalence of patients with CSU who visited Hiroshima University outpatient clinic (n=201)



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

*Tanei R and Katsuoka K. J Dermatol, 2008; 35: 562-569*

- Diagnosed 16 patients as AD out of 4,100 cases of aged ( $\geq 65$  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:  $8,810 \pm 13,511$  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

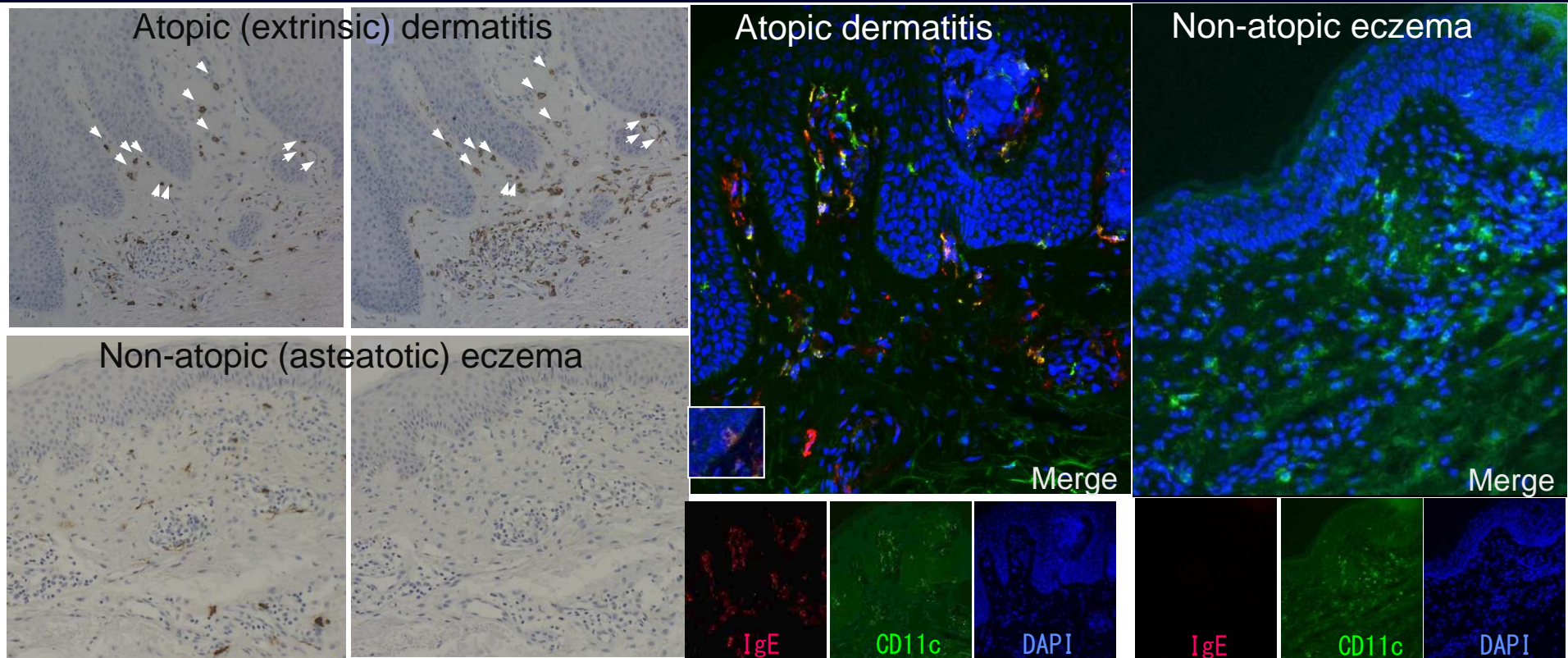
# Immunohistological manifestations of atopic dermatitis in elderly patients

Tanei R, et al. JEADV, 2013; 27: 952-960

Mast cell tryptase

IgE

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



Mast cell and IgE<sup>+</sup> cell infiltration is increased in a lichenified skin lesion of a patients 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

76yr Acute U

67yr M Anaphylaxis

80yr F CSU



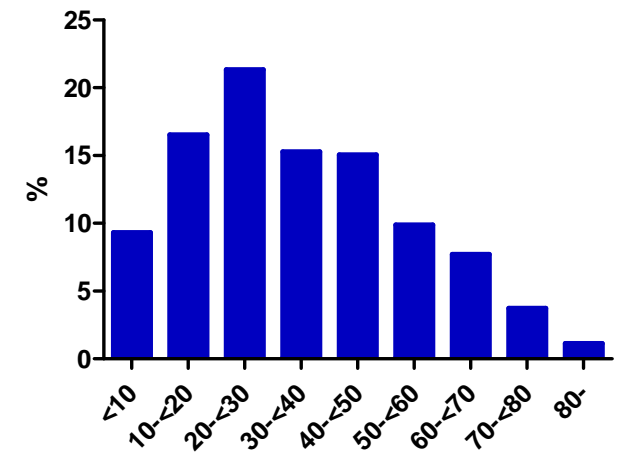
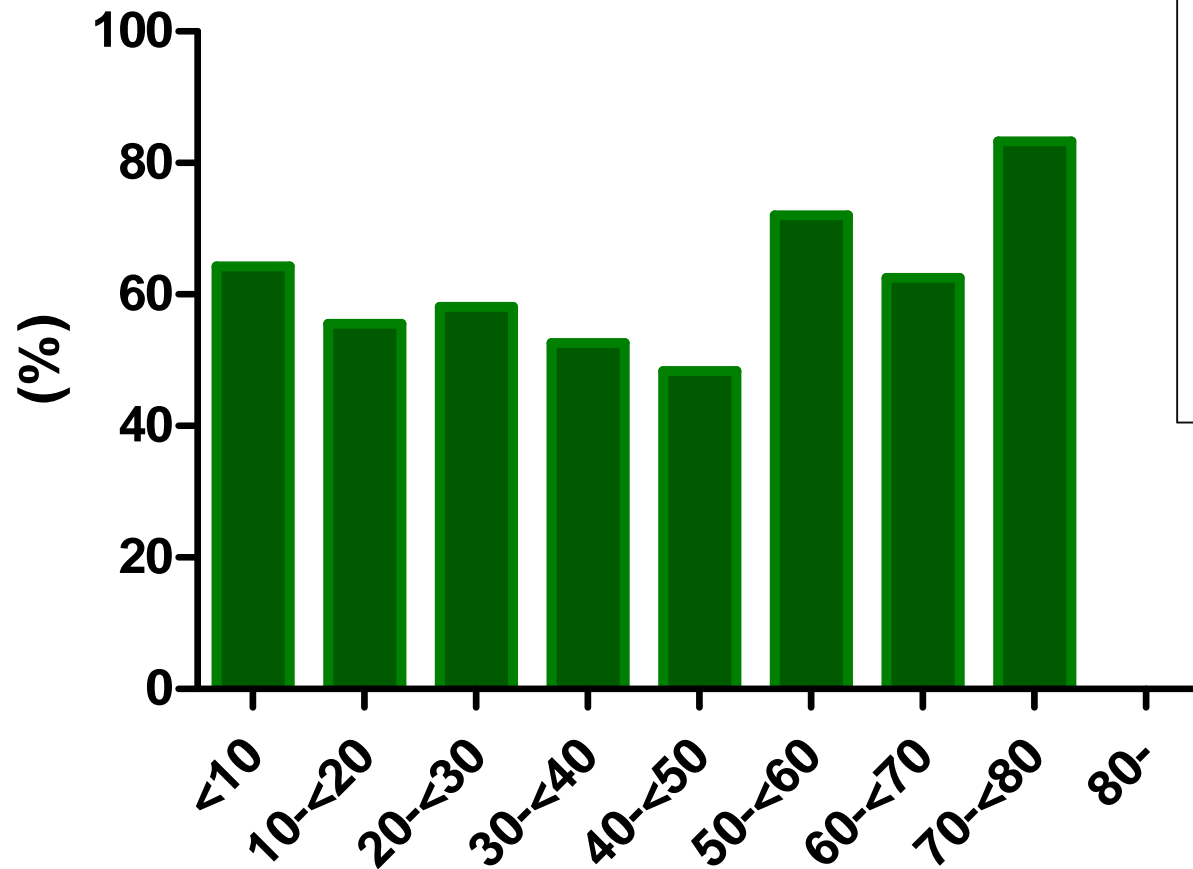
69yr F CSU

69yr M CSU

84yr M Mechanical U



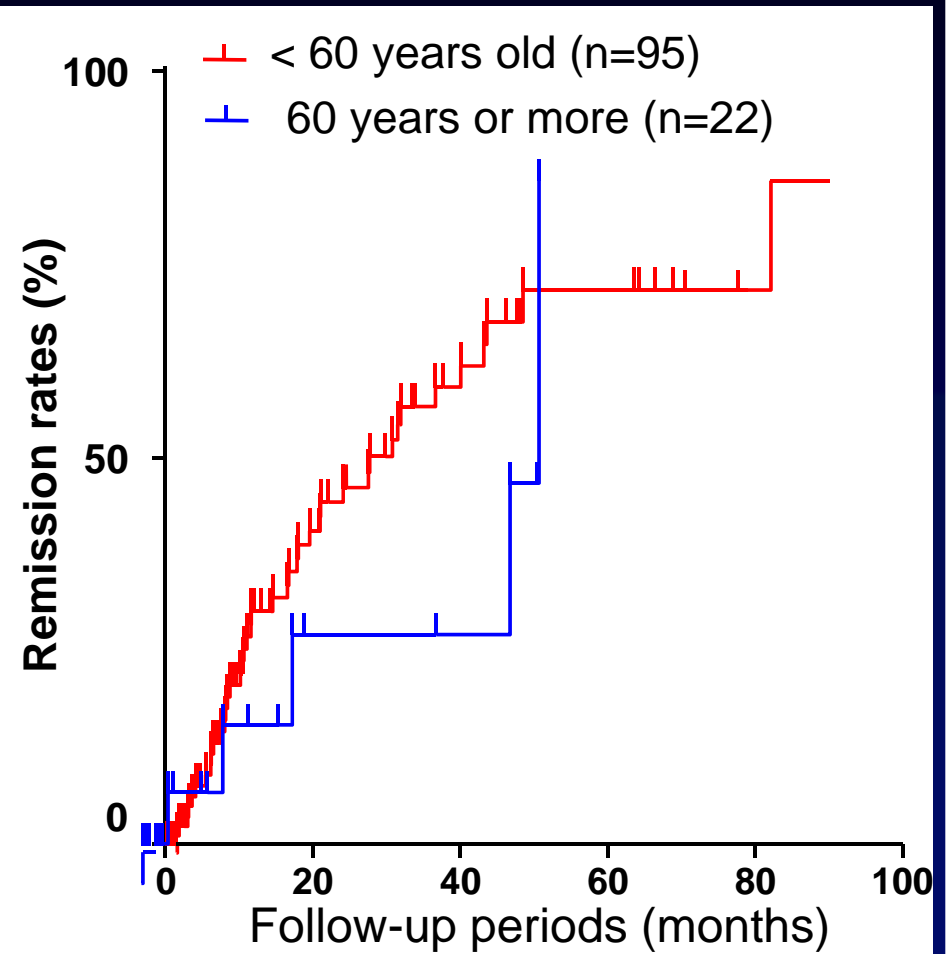
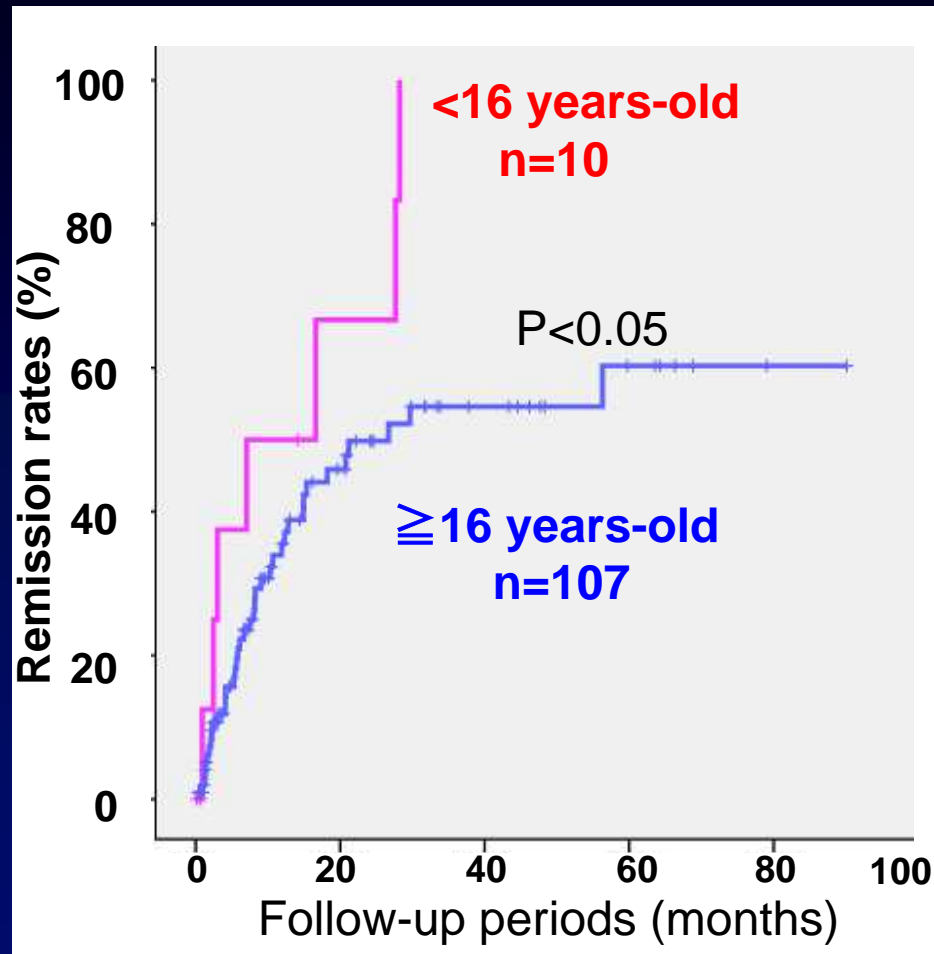
# Percentage of patients with CSU whose symptoms were not sufficiently suppressed by a standard dose of antihistamine in Hiroshima University Hospital



Prevalence of CSU in age groups adjusted by whole Japanese population

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



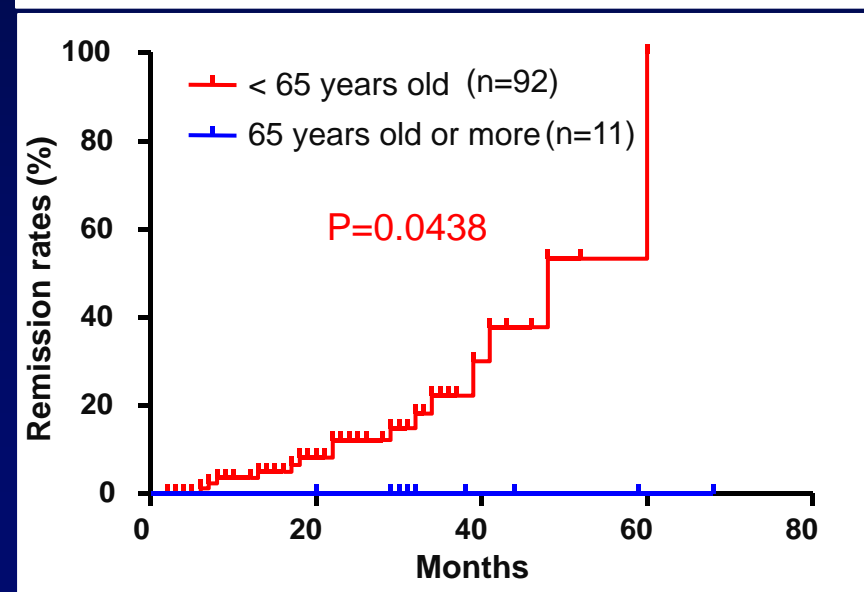
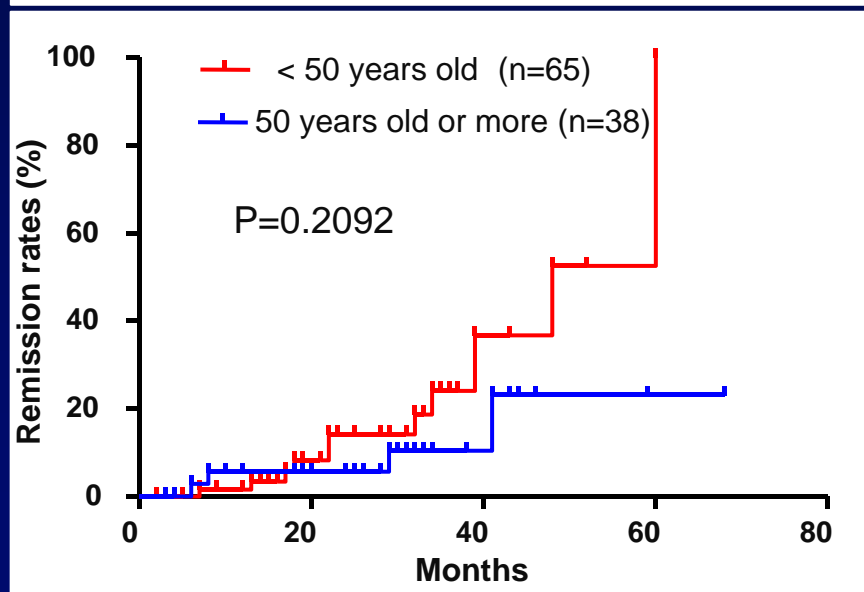
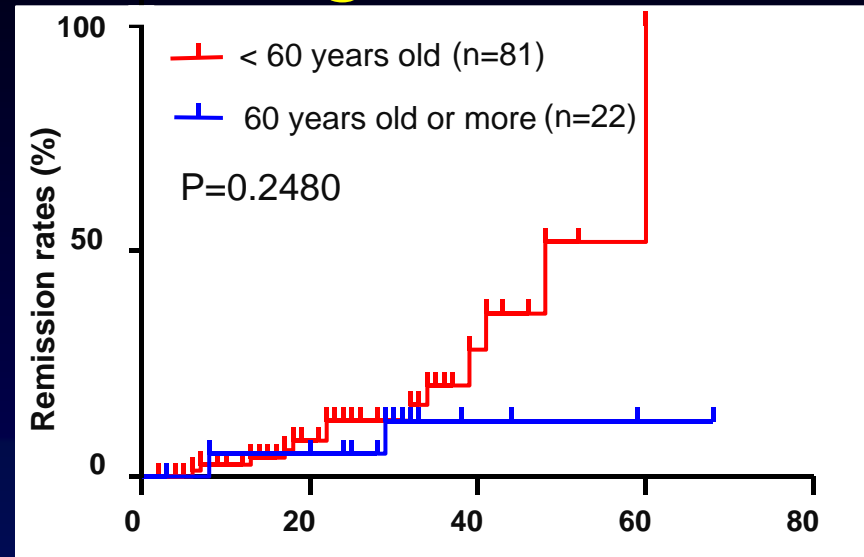
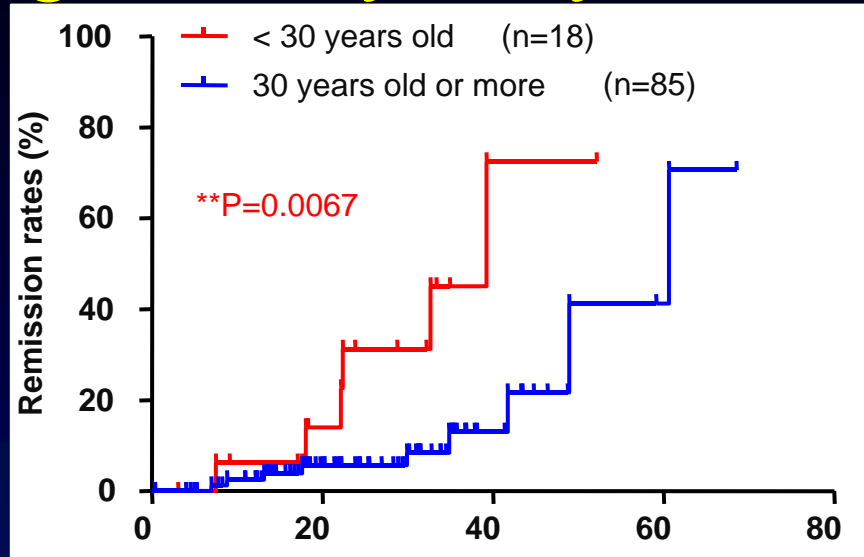
The improvement rate of <60 years-old patients appears to be slightly higher, but the difference was not significant.

# 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.

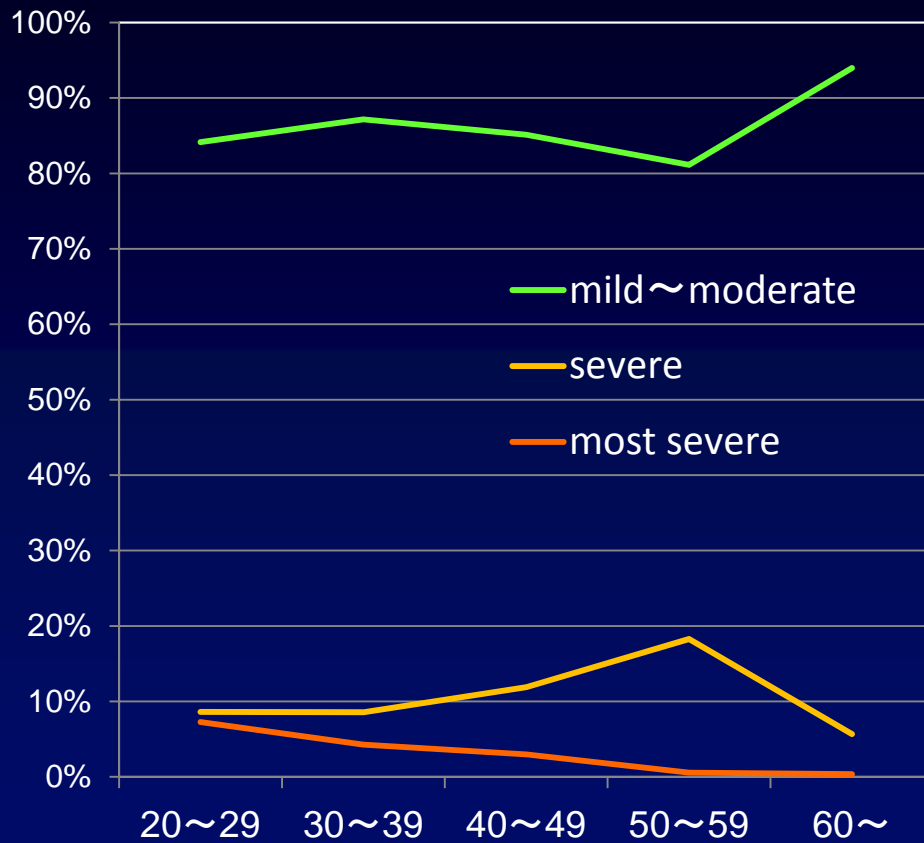
# Time course of acquired type I allergy against hydrolyzed wheat antigens



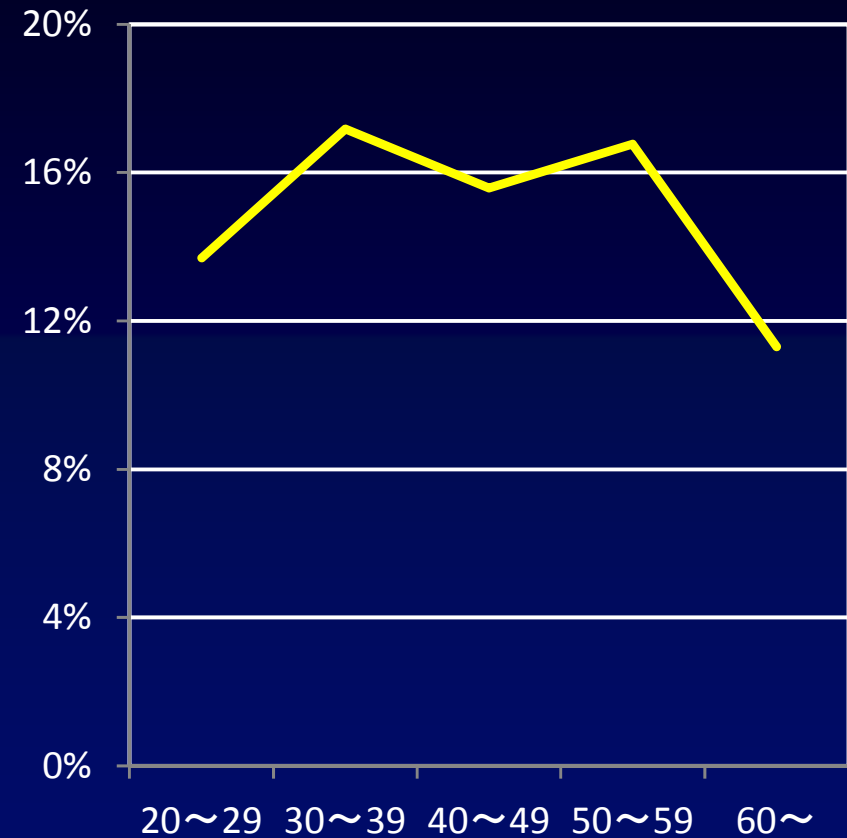
Type I allergy acquired in old age tends to be prolonged

# Surveillance of atopic dermatitis by Web questionnaire

## Disease severity (POEM)



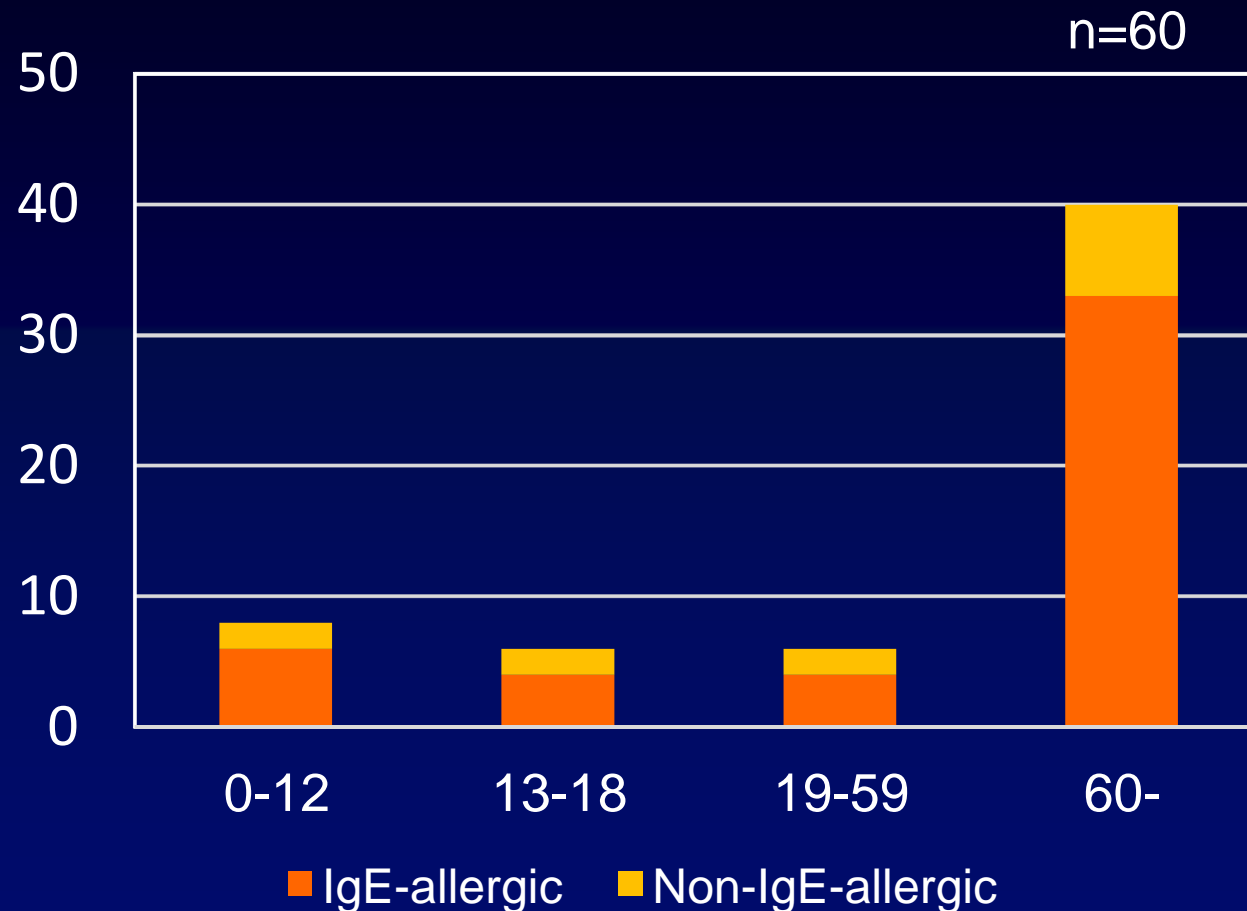
## Steroid phobia



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



*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  $\geq 60$ .

# Classification of angioedema

## 1. Bradykinin mediated

	Inheritance	
	Positive	Negative
C1-INH deficiency/defect	<ul style="list-style-type: none"><li>• HAE-1</li><li>• HAE-2</li></ul>	<ul style="list-style-type: none"><li>• <u>Acquired angioedema due to C1-INH deficiency/consumption</u></li></ul>
Normal C1-INH	<ul style="list-style-type: none"><li>• HAE with normal C1-INH</li></ul>	<ul style="list-style-type: none"><li>• <u>Drug-induced angioedema (eg, ACEI)</u></li><li>• <i>Non-classified angioedema</i></li></ul>

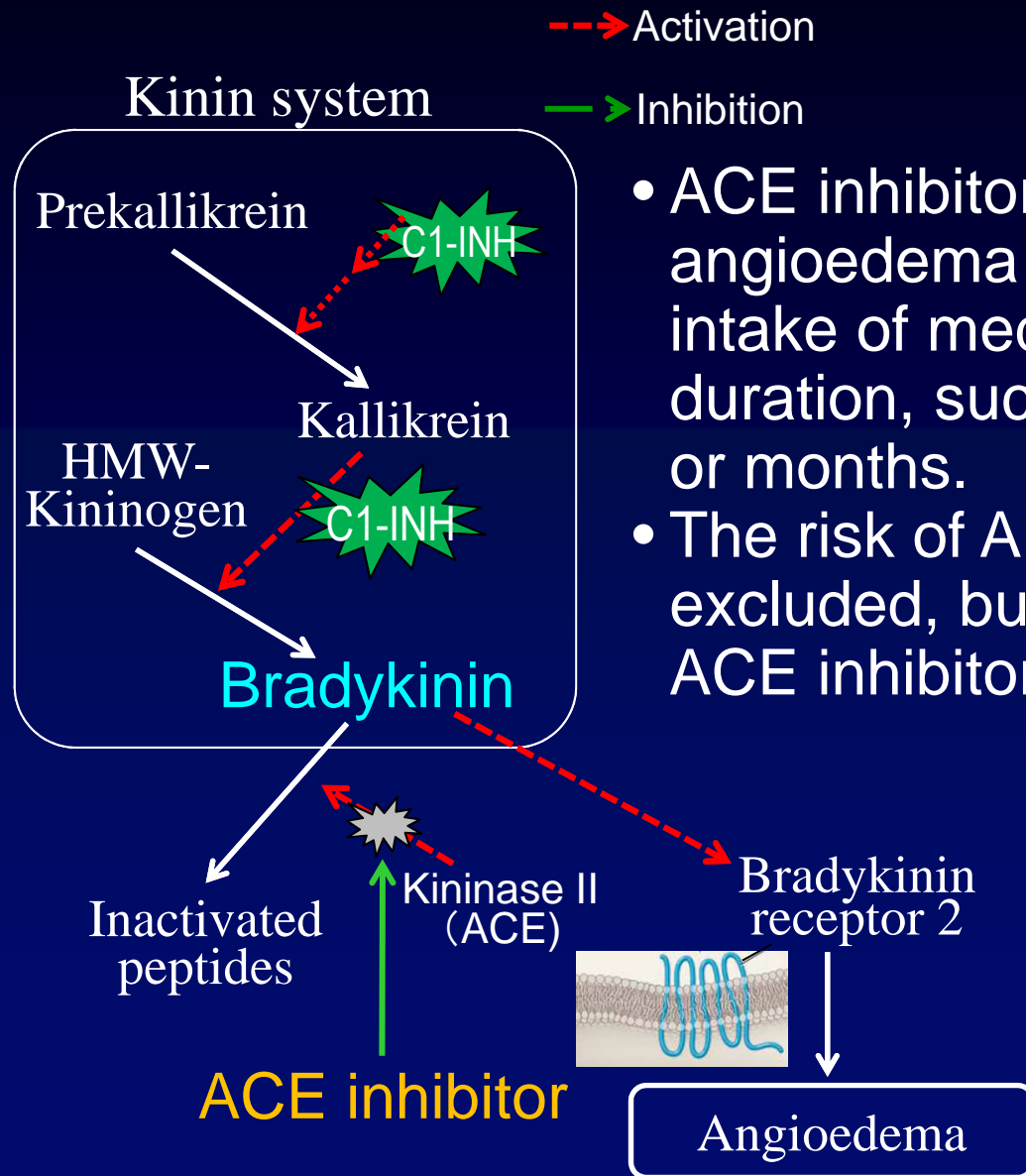
## 2. Mast cell mediated, normal C1-INH

IgE mediated	<ul style="list-style-type: none"><li>• Anaphylaxis</li><li>• IgE-mediated urticaria</li></ul>
Non-IgE mediated	<ul style="list-style-type: none"><li>• Chronic spontaneous urticaria</li><li>• Inducible urticarias</li><li>• <i>Non-classified angioedema</i></li></ul>

## 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<sup>th</sup> 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)



# Summary

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 lymphoproliferative diseases.