

English pages

Report from the 18th Annual Meeting of the
Japanese Society of Immunotoxicology
(JSIT2011)

Koichi Ueno

(Graduate School of Pharmaceutical Sciences, Chiba University)

The 18th Annual Meeting of the Japanese Society of Immunotoxicology (JSIT 2011) was held at “KEYAKI Kaikan” (University Hall), Chiba University (Nishichiba campus) during September 8-9, 2011. The main theme of this meeting is “Crosstalk between clinical and experimental immunotoxicology”.

On the first day, Invited Plenary Lecture “The Histamine H₄ Receptor and Immune Function” was fascinatingly given by Dr. Robin L. Thurmond (Johnson & Johnson Pharmaceutical Research & Development, L.L.C., USA). In main symposium: “Food Allergy-From *in vitro* prediction test to clinical test-”, we have discussed new candidate pathway of immunity, animal models, diagnostic methods for food allergy. Dr. Hiroshi Ohno (Riken) talked about “Food Allergy, intestinal immunity and oral tolerance”. Dr. Haruyo Nakajima-Adachi (The University of Tokyo) presented “Maintenance of IL-4 production by CD4⁺T cells in mesenteric lymph nodes is indispensable in inducing T cell-dependent food allergic enteropathy”. Dr. Yasuto Kondo (Fujita Health University) presented “Development of new diagnostic method for cross-reactivity between food allergens”. Finally, Dr. Gregory S. Ladics (DuPont Agricultural Biotechnology, Wilmington, DE, USA) presented “Animal Model to Assess Protein Allergenicity: State of the Science” as the exchange speaker from SOT ImToxSS. As a Special lecture, Prof. Chisato Mori (Chiba University) presented “Environmental contaminants and children’s health”. From the Special lecture, we got to know the attractive on-going study on fetal exposure assessment in Japan. In this year, “JSIT AWARD for Distinguished Contribution” was received by Dr. Takemi Yoshida (Council on Pharmacists Credentials), and “JSIT RESRACH AWARD” was received by Dr. Ryosuke Nakamura (National Institute of Health Sciences), both awards were given first time ever.

The 19th Annual Meeting of JSIT 2012
(Japanese Society of Immunotoxicology)

September 15–16, 2012

The Jikei University School of Medicine, 3-25-8
Nishishinbashi, Minato-ku, 105-8461 Tokyo, Japan.

Theme:

“New aspects of diseases related to immunotoxicology”

• **Special Lecture:**

Dr. Motoyasu Ohsawa
(Hatano Research Institute, Food and Drug Safety Center)

• **Educational Lecture 1:**

Prof. Toru Miyazaki
(Laboratory of Molecular Biomedicine for Pathogenesis, Center for Disease Biology and Integrative Medicine, Faculty of Medicine, The University of Tokyo)

• **Educational Lecture 2:**

Prof. Kazuhiro Kondo
(Department of Virology, The Jikei University School of Medicine)

• **Symposium:**

Progress in research of immunotoxicology

Prof. Kou Sakabe

(Department of Human Structure and Function, Tokai University School of Medicine)

Dr. Kenji Ishiwata

(Department of Tropical Medicine, The Jikei University School of Medicine)

Dr. Yasumitsu Nishimura

(Department of Hygiene, Kawasaki Medical School)

• **Workshop:**

Oral / Poster presentation

Deadline for abstract submissions: June 25, 2012

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On the second day, in the Students and Young Scientists Session, there were 6 of fresh oral presentations and Ms. Eriko Suwa (Chiba University) received “The Best Young Presenter Award”. There were also active discussions in 14 oral and 10 poster presentations. Among them, Dr. Katsunori Yamaura (Chiba University) received “The Outstanding Researcher Award”. As a Master’s Lecture Dr. Nahoko Kaniwa (National Institute of Health Sciences) presented “Genetic risk factors related to severe cutaneous adverse reactions” with wide-spectrum of view. In the Workshop, “Methods of Assessment for Developmental Immunotoxicity” was discussed by the chairmen, Dr. Naohisa Tsutsui (Mitsubishi Tanabe Pharma Corporation) and Dr. Tadashi Kosaka (Institute of Environmental Toxicology) with four speakers and audience. “Developmental Immunotoxicology: State-of-the-Science” by Dr. Gregory S. Ladics again, “A new assay system for evaluation of developmental immunotoxicity of chemical compounds using RSV infection to offspring mice” by Dr. Wataru Watanabe (Kyushu University of Health and Welfare), “Studies on the effects of toluene exposure on developing immune system” by Dr. Tin-Tin Win-Shwe (National Institute for Environmental Studies), and “The effect of perinatal/infant Methoxychlor exposure in rat immune system” by Dr. Koichi Hayashi (Institute of Environmental Toxicology) were presented. From this Workshop, we can learn a lot of knowledge about new assays for immunotoxicity during the developmental period.

Thus we have studied a lot about immunotoxicological sciences from both basic and clinical side. I would like to appreciate all the participants who actively joined passive presentations and discussions not only from Japan, but also from foreign countries. We could develop ourselves though friendly competition to immunotoxicology via such a fruitful conference, and such willingness might contribute future research and clinical field.

JSIT prize from academic society

JSIT first prize from academic society

Takemi Yoshida, Ph.D.

(Professor Emeritus Showa University
Council on Pharmacists Credentials Executive Director)

It is my great honor and pleasure to be awarded the Society Award.

I thank Dr. Sawada, Dr. Maki, Dr. Horii and all members of the Society.

In 1992, Prof. Kuroiwa organized the satellite symposium with the theme of Immunotoxicology on the occasion of 19th Annual Meeting of Japanese Society of Toxicology at Showa university. This is the beginning of our Society. Thus, I have joined the Society, just like a charter member, to date. The articles produced from my groups are some differences from immunotoxicology, but will illustrate that cytokines play important regulatory roles in drug and heme metabolism. IL-1 controls cholesterol 7 α -hydroxylase gene expression, and may involve in memory and learning. The researchers of immunotoxicology should keep in mind for the importance understanding toxic responses to xenobiotics in relation to their fate and underlying mechanism, and the ultimate goal of defining the relevance of toxic responses for human safety. Finally, as a member of the beginning of some 20 years ago, I fervently hope Japanese Society of Immunotoxicology will continue to keep its mission alive and expand scientific and social activities.

JSIT prize for encouragement

JSIT first prize for encouragement

Ryosuke Nakamura

(National Institute of Health Science)

I am very honored and very proud to be selected as the recipient of the JSIT first prize for encouragement and truly appreciate the JSIT and all of the members of the awarding committee for their gracious consideration.

I have worked under the supervision of Drs. Reiko Teshima and Jun-ichi Sawada, whom I want to thank

sincerely for showing guidance while giving me the freedom to continue my projects, and their great support during all the time.

I also have to say special thanks to my closest collaborators, Miss Yoshimi Uchida, Mr. Masakazu Higuchi, Miss Ayano Ishiwatari, and Dr. Rika Nakamura for their devoted efforts. Not much of what I am honored for today would have been achievable without them.

Finally, let me conclude by thanking my family for their help and encouragement.

Thank you so much again.

The Outstanding Researcher Award in annual convention

A novel animal model of pruritus induced by successive application of glucocorticoid to mouse skin

Katsunori Yamaura, Ryosuke Doi,
Eriko Suwa and Koichi Ueno

(Department of Geriatric Pharmacology and Therapeutics,
Graduate School of Pharmaceutical Sciences, Chiba University)

The present study was an initial trial designed to establish an animal model of glucocorticoid-induced pruritus by topical application of dexamethasone over a long period in mice with contact dermatitis. BALB/c mice with chronic allergic contact dermatitis induced by 5 weeks of repeated application of TNCB were treated topically with dexamethasone for 3 weeks from 2 weeks after the elicitation of dermatitis. Significant enhancement of pruritus was confirmed after chronic application of dexamethasone. The increased frequency of scratching behavior was reduced by withdrawal of dexamethasone. On the other hand, ear-swelling was markedly ameliorated by dexamethasone treatment, but rapidly relapsed after dexamethasone withdrawal. It is anticipated that this novel animal model of glucocorticoid-induced pruritus will be useful for clarifying the mechanisms of the rebound phenomenon induced by chronic treatment with topical glucocorticoids, and for developing a new form of therapy.

Reference: Yamaura K. Doi R. Suwa E. Ueno K. *J Toxicol Sci.* 2011;36:395-401.

The Best Young Presenter Award

Effects of histamine H₄ receptor antagonist JNJ7777120 on the mouse model of atopic dermatitis

Eriko Suwa, Katsunori Yamaura
and Koichi Ueno

(Department of Geriatric Pharmacology and Therapeutics,
Graduate School of Pharmaceutical Sciences, Chiba University)

Effects of the histamine H₄ receptor antagonist JNJ7777120 were examined for 99 days in an experimental model of pruritic dermatitis induced by repeated challenge with 2, 4, 6-trinitrochlorobenzene (TNCB) in HR-1 mice. Repeated application of TNCB to the back skin of mice elicited frequent scratching behavior and skin lesions within 24 h after challenge. JNJ7777120 (10 and 30 mg/kg) reduced this scratching behavior and ameliorated the skin lesions in a dose-dependent manner, whereas the histamine H₁ receptor antagonist fexofenadine had no such effect and did not reduce the inflammation score, even though dexamethasone reduced the scratching bouts. Each of the three agents reduced the increase in the serum IgE concentration induced by TNCB, but only JNJ7777120 reduced the number of mast cells in the skin lesions elicited by repeated application of TNCB. These results indicate that treatment with a H₄ receptor antagonist may be effective for amelioration of both skin inflammation and pruritus in patients with allergic dermatitis such as atopic dermatitis.

Interview with Immunotoxicologists from around the world (Part 2)

For this issue, we interviewed Dr. Ladics from DuPont Ag Biotechnology, USA and Dr. Thurmond from Johnson & Johnson Pharmaceutical Research & Development, L.L.C., USA on the occasion of their visit to Japan to attend the 18th Annual Meeting of the Japanese Society of Immunotoxicology held in Chiba on the 8th and 9th of September, 2011. At the Meeting, Dr. Ladics and Dr. Thurmond gave highly informative talks at Symposium and Workshop session, and Invited Plenary Lecture, respectively. Both lecturers spoke about their current

research interests and exciting developments in their fields.



Dr. Gregory Ladics, Ph.D.,
DABT
Research Fellow,
DuPont Ag Biotechnology,
USA

Q1: What was the most interesting thing for you in your trip to Japan this time?

The most interesting thing for me regarding my recent trip to Japan was my visit to Kamakura with Dr. Kazuichi Nakamura. This was my first visit to the beautiful city of Kamakura. While in Kamakura, we visited the Great Buddha statue, the Kencho-Ji Temple, and the Engaku-Ji Temple. I also had green tea ice cream for the first time. It was very delicious.

Q2: What are the hottest topics in your field, or what are the topics you are interested in most right now?

One of the hot topics currently in my field of Immunotoxicology is Developmental Immunotoxicology. A number of regulatory agencies are trying to determine what testing paradigm(s) should be employed and how they should be implemented in the safety assessment process. The topic that I am most interested in at this time is protein allergenicity. What makes certain proteins allergenic and the majority of others non-allergenic? A number of factors likely come into play such as: 1) age of first exposure; 2) number of exposures; 3) route of exposure; 4) quantity of exposure; 5) genetics (i.e., atopy); 6) food matrix effects; 7) concurrent infections at time of exposure; and 8) protein structure. Why do some children with food allergies to proteins 'outgrow' or become tolerant to the offending proteins as they get older? There is so much that we don't yet know about the etiology of food allergy.

Q3: What are the happiest thing and the toughest thing in your career?

The happiest moments in my career were when 1) I received the Young Investigator Award in 2006 for

accomplishments in the Field of Immunotoxicology from the Immunotoxicology Specialty Section of the Society of Toxicology and 2) I became a Diplomat of the American Board of Toxicology by receiving my certification in General Toxicology in 1999. The toughest decision in my career was deciding on whether to pursue an academic or industry career path. Ultimately, I liked the more applied science aspect of industry and elected this career path more than 20 years ago.

Q4: Could you offer some advice for young researchers who would like to start their career?

For young researchers, particularly those unsure of a career path, I would suggest that they do a post doc in either industry or academia to gain additional experience and to further help determine the career path most appropriate for them. In addition, I would suggest that they publish their research in the peer-reviewed literature and present their findings at international scientific meetings whenever possible.



Q5: Any other comments.

I really enjoyed my participation on the Japanese Society of Immunotoxicology Meeting. There is a large amount of interesting research in Immunotoxicology that is being conducted in Japan, particularly by the many young investigators that participated in the meeting. I look forward to continual interactions with the Japanese Society of Immunotoxicology. For those interested, Dr. Teshima and myself have put together a symposium entitled “The Allergenicity and Immunomodulatory Effect of Food Substances” at the March 2012 Society of Toxicology Meeting in San Francisco, California. In the symposium, Drs. Ryosuke Nakamura and Tomoko Shindo of the Japanese Society of Immunotoxicology will be presenting their research findings.



Dr. Robin L. Thurmond, PhD.
Compound Development
Team Leader,
Immunology Clinical Research,
Johnson & Johnson Pharmaceutical
Research & Development, L.L.C.,
USA

Q1: What was the most interesting thing for you in your trip to Japan this time?

I very much enjoyed attending the Japanese Immunotoxicology Society Meeting and was impressed with the excitement and enthusiasm of the scientists in attendance. As with any trip I have made to Japan, I loved all of the fantastic food and strolling in the beautiful gardens.

Q2: What are the hottest topics in your field, or what are the topics you are interested in most right now?

My interest right now is in reinvestigating the role of histamine in human disease. This is an area we thought we new quite well. However, most of this is based on the utility (or lack thereof) of antihistamines used in the clinic and needs to be reassessed with the discovery of new histamine receptors.



Q3: What are the happiest thing and the toughest thing in your career?

The best experiences I have had in my career have been when I have moved into new areas. It is always exciting to learn new things and I have found that non-experts often bring much needed insight.

The toughest thing is to know when to stop a project and move on. This is especially important in the pursuit of new drugs. There are always many interesting ideas to follow, but sometimes it is important to focus on those that are the most promising.

Q4: Could you offer some advice for young researchers who would like to start their career?

Follow what you are most interested in and do not be afraid if it takes you places you are not familiar with. Always learn from others around you and never hesitate to ask questions. Also constantly question your assumptions and make sure the foundation for them is still sound.



Welcome party