

Vitamin A and Alzheimer's Disease

KENJIRO ONO, M.D., Ph.D.

Lecturer

Department of Neurology,

Kanazawa University Hospital

MASAHITO YAMADA, M.D., Ph.D.

Department of Neurology & Neurobiology of Aging,

Kanazawa University Graduate School of Medical Science

<Summary>

The deposition of amyloid β -protein ($A\beta$) in the brain is an invariant feature of Alzheimer's disease (AD). Vitamin A, which has been traditionally considered an anti-oxidant compound, plays a role in maintaining higher function in the central nervous system. Plasma or cerebrospinal fluid concentrations of vitamin A and β -carotene have been reported to be lower in AD patients, and these vitamins have been clinically shown to slow the progression of dementia. Vitamin A (retinol, retinal and retinoic acid) and β -carotene have been shown in in vitro studies to inhibit the formation, extension and destabilizing effects of β -amyloid fibrils. Recently, the inhibition of the oligomerization of $A\beta$ has been suggested as a possible therapeutic target for the treatment of AD. We have recently shown the inhibitory effects of vitamin A and β -carotene on the oligomerization of $A\beta_{40}$ and $A\beta_{42}$ in vitro. In previous in vivo studies, intraperitoneal injections of vitamin A decreased brain $A\beta$ deposition and tau phosphorylation in transgenic mouse models of AD, attenuated neuronal degeneration, and improved spatial learning and memory. Thus, vitamin A and β -carotene could be key molecules for the prevention and therapy of AD.

Uses of *in silico* Methods for Chemical Safety Assessment

ATSUSHI ONO, Ph.D.

Division of Risk Assessment, National Institute of Health Sciences

<Summary>

Chemicals provide humans with many conveniences and improve our lives in many ways. Safety information on chemicals is necessary for the proper use and management of chemical substances or the products containing them. Many types of toxicity tests, including animal tests, are necessary for safety assessment of chemicals. However, due to animal welfare concerns, cost and long times necessary for testing, the development of new, reliable and efficient methods is badly needed. The *in silico* approach, which involves structure-activity relationships, is considered to be one promising method and is currently being studied for possible future practical applications. Although in limited scope, *in silico* methods are already used for safety assessment for risk assessment by authorities, such as the EPA in the United States. In this paper, the current state of the use of *in silico* methods in chemical safety assessment will be introduced and will include studies from our laboratory on human health risk assessment.

Risk Assessment of Chemicals in Food - Recommendation of Voluntary Assessment of Your Own Products

CHIKAKO UNEYAMA Ph.D.

Division of Safety Information on Drug, Food and Chemicals

National Institute of Health Sciences Ministry of Health and Welfare

<Summary>

Food consists of many chemical components which properties are known or unknown. We don't know them exactly, though we are selling, buying, cooking and consuming them as deemed safe. Food manufacturers produce prepackaged foods from many ingredients bought from other companies or farmers. They do not synthesize food from pure chemical, but it is manufactures' responsibility for safety and quality of the products from consumer's point of view. Actually, it is the manufacture that knows best about the products, for example, how they are processed, what ingredients are used and so on. It is the reason why manufactures are recommended to assess the risk and provide risk management procedure ahead. This paper presents an example, 4-methylimidazole, a contaminants in caramel colors.

“Nutrition Labelling Systems – Using Data on Current Trends and Research from around the World to Predict the Future”

3. Consideration regarding the Approach of Manufacturers

TOSHITAKA MASUDA, Ph.D.

Consumer Affairs Agency Food Labelling Division,

Assistant Manager, Food Labelling group on Health Promotion Act

REIKO YONEKURA

Ministry of Health, Labour and Welfare Equal Employment,

Children and Families Bureau

<Summary>

The Food Labelling Act was passed into law at the 183rd ordinary session of the Diet. The new Act is to set up a mandatory framework of the present voluntary Nutrition Labelling System.

In order to advance the relevant issues regarding mandatory nutrition labelling, the Consumer Affairs Agency surveyed a situation of nutrition labelling on the market. The result shows that approximately 80 % of prepackaged foods have nutrition declaration. However, a difficulty in maintaining the accuracy of labeled contents of some nutrient components within predetermined tolerant ranges, which depends on the type of foods, is indicated.

Nutrition labelling is a means of providing information to consumers on the nutrient content of foods so as to manage their health in the medium- and long-term. To ensure the nutrition labelling on a wide variety of prepackaged foods, the Consumer Affairs Agency amended the standards in September 2013 as a part of policies to set up the mandatory framework. The amendment enables manufactures to label the contents of certain nutrient components regardless of the tolerant ranges. In addition, the tolerant ranges can be loosened if the amount of a nutrient component in a food is low and meets certain conditions of the newly established standards.

For surefire implementation of the mandatory nutrition labelling, increasing numbers of foods are expected to apply the nutrient declaration effectively.

Report on a Round-table Discussion Session about Activation of the ILSI Japan Research Committees and Task Forces

RYUJI YAMAGUCHI, Ph.D.
Executive Director
ILSI Japan

<Summary>

A round-table discussion session was held on the afternoon of Tuesday, February 19th, 2013 after the ILSI Japan General Assembly meeting. It was held for the purpose of debate how we should do to move the ILSI Japan Research Committee activities forward. At least, it is to reach a consensus among research committee members.

At first, ILSI Japan secretariat offered outline of activities and management of ILSI Headquarter and other branches as a reference for discussion. All participants were divided into three groups and received points for discussion. After one-hour discussion, representatives of the each group kindly introduced their discussion summaries and shared information.

“International Symposium on Global Standards of Food Additives ” in the
ifia Japan 2013

TADASHI HIRAKAWA, Ph.D.
Director
ILSI Japan

<Summary>

As a rapid increase in global trade of processed foods, we often come across wide variety of cases which require deeper and more comprehensive knowledge of regulations of food additives in each country and region.

In this symposium, food safety regulators from the US, China and Southeast Asia introduced their own regulations of food additives and discuss their future prospects.

Symposium on the Environmental Risk Assessment of Living Modified Organisms Imported for Food, Feed and Processing

SHOEI HASHIMOTO

Chairman, Biotechnology Research committee,

ILSI Japan

<Summary>

An international meeting on ERA of LMOs (Living Modified Organisms) imported for FFP was held in Tokyo, on May 24th and 25th, 2013. This meeting was initiated by ILSI CERA and ILSI Japan, with support from Tsukuba University GMO Research Institute and the Japanese Society of Breeding. The first day of this meeting was a symposium and the second day was a round table dialogue. 96 participants joined the symposium. They were administrators, scientists for environmental risk assessment, scientists for biotechnology, and scientists working for industry.

At the symposium of the 1st day, after a lecture about “Problem formulation” as the principle of assessments by Dr. Andrew Roberts, 3 lectures explained assessments of 3 countries as follows:

- ERA of LMOs for food, feed and processing in the European Union by Dr. Hans Bergmans (National Institute of Public Health and the Environment, Netherlands)
- ERA of LMOs for food, feed and processing in Mexico: the case of genetically modified maize by Dr. Sol Ortiz-Garcia (Interministerial Commission of Biosafety and Genetically Modified Organisms, Mexico)
- ERA of LMOs for food, feed and processing in Japan by Dr. Shinobu Satoh (Faculty of Life and Environmental Sciences, University of Tsukuba, Japan)

In the above lecture, Dr. Satoh explained current topics for ERA for FFP which included the first case without approval for cultivation (Most Japanese approvals for GM Crops imported for FFP had approvals for cultivation because of spillage).

Through discussions, we recognize that countries other than Japan could use information from other countries for ERA of GM Crops imported for FFP.

Report of the 41st Session of the Codex Committee on Food Labelling

HIROAKI HAMANO

Advisor

ILSI Japan

<Summary>

The Forty-first Session of the Codex Committee on Food Labelling was held in Charlottetown, Prince Edward Island, Canada from 14 to 17 May 2013. The Session was attended by 213 delegates representing 60 member countries, one member organization (EU) and 22 international organizations. Total 11 participants attended from Japan consisting of one from the Consumer Affairs Agency and the Ministry of Health, Labour and Welfare respectively, 2 from the Ministry of Agriculture, Forestry and Fisheries, 6 from NGOs including 3 from ILSI Japan and the author as a technical advisor to the government delegation. The summary and conclusions of the Session are as follows.

The Committee agreed to advance to Step 8 and 5/8 the following:

- Draft amendments to the Guidelines on “Nutrition and Health Claims” (CAC/GL 23-1997) on “Non-Addition of Sodium Salts”
- Proposed Draft amendments to the Guidelines on “Organically Produced Foods” (CAC/GL 32-1999) on the use of Ethylene as Sprouting Inhibitor for Onions and Potatoes

The Committee forwarded to CAC the following amendments:

- Editorial amendments to the Guidelines on “Nutrition and Health Claims” (CAC/GL 23-1997) clarifying section 6.3 on Comparative Claims
- Amendments to the Guidelines on Nutrition Labelling (CAC/GL 2-1985) concerning definitions and replacing the existing annex with new Annex: General Principles for Establishment of Nutrient Reference Values for the General Population

Matters of interest and referred to the Commission and other Committees:

- The Committee agreed to propose new work to the Commission to review the General Standard for the Labelling of Prepackaged Foods to address issues on Date Marking.
- The Committee did not endorse the labelling provisions of the proposed draft Regional Standard for Non-Fermented Soybean Products.
- The Committee agreed to request CCFNSDU to establish conditions for the Free TFAs claims and to consider a definition for Biofortification.

With regard to Organic Aquaculture of the Guidelines on “Organically Produced Foods” (CAC/GL 32-1999), the committee agreed to return the text to Step 3 for circulation to all members and observers and further discussion at the next Session at Step 4.

About Front-of-Pack Nutrition Labelling (Workshop at the 41st CCFL)

SHIGENORI SUZUKI

*Research and Develop Division,
Kagome Co., Ltd.*

<Summary>

The Food and Agriculture Organization (FAO) and the World Health Organization (WHO) organized a workshop on Front-of-Pack (FOP) nutrition labelling as a satellite workshop of the 41st Session of the Codex Committee on Food Labelling (CCFL) held in Charlottetown, Prince Edward Island, Canada from 14-17 May 2013. The main objective of the workshop was to provide information to CCFL delegates and observers regarding various issues such as the role, uses, and development of FOP nutrition labelling, challenges to FOP nutrition labelling and regional experience with FOP nutrition labelling.

The agenda of workshop was as follows:

- I. What is Front of Pack Nutrition Labelling?
- II. Nutrient Profiling for Front-of-Pack Labelling
- III. Country experiences with Front of Pack Nutrition Labelling
 - 1) Nordic Keyhole – Experience and Challenges
 - 2) Recommendations for front of pack labelling in the US
- IV. Participant discussion

This workshop was as informational meeting, solutions, ideas and action points were not developed. However, participants engaged in lively discussion about the efficacy of FOP nutrition labelling for health promotion, and NGO activities related to FOP nutrition labelling. Presentation documents are currently available at both the FAO and WHO websites. In this article, three kinds of FOP nutrition labelling (fact-based, better-for-you, and the traffic-light system) are briefly introduced.

< Friends in ILSI >

Information Exchange Meeting with Dr. Jerry Hjelle, President of ILSI
Head Quarter

RYUJI YAMAGUCHI, Ph.D.
Executive Director
ILSI Japan

<Summary>

Dr. Jerry Hjelle of ILSI president visited the ILSI Japan office on Thursday, June 20 after participating the 20th anniversary ceremony of the ILSI Focal point in China. He has kindly provided the explanation of activities that focused on strategic planning of ILSI headquarter and other branches. Afterwards, there were activity presentations from the ILSI Japan, CHP, and Research Committees. Furthermore, ILSI Japan introduced a future design about the CHP activity and called for the future discussion that involved the headquarters and other branches, and exchanged opinions.

< Friends in ILSI >

ILSI Taiwan – the Newest ILSI Branch to Aid Global Connect and Ensure Food and Public Health for Taiwan

JENNY CHANG, Ph.D.
Executive Director
ILSI Taiwan

The first new branch to join the ILSI network since 1997, ILSI Taiwan, 16th globally and 6th in Asia, has been inaugurated on July 28, 2013. In the milestone meeting, there were close to 100 participants including many distinguished guests.

“The immediate goal is to link government with industries and academia, locally and globally, to collaborate on food safety and public health.” Prof. Lucy Sun Huang is the inspiring initiator and Chairman of the Pro Tem Committee for the organization, who is a distinguished professor of food science and technology at National Taiwan University. “The industries give out the test questions. The academia seeks solutions and passes the recommendations to the government to ultimately benefit the consumers”. She went on to elaborate upon the essence of the tripartite relationship.

Dr. Jerry Hjelle, President of ILSI, formally welcomed ILSI Taiwan into the family via videotape. He emphasized ILSI’s strength lies on international network of scientists, researchers and health professionals. Local branch with the unique insights will make ILSI stronger in its global initiatives.

Dr. Wen-Ta Chiu, Minister of Ministry of Health and Welfare expected ILSI Taiwan to play a role in helping consumers in Taiwan to be worry free in food consumption after several serious food safety events in recent years. Vice-Premier Chih-Kuo Mao of the Executive Yuan noted “We are what we eat. ILSI Taiwan should utilize life science to help achieve the ultimate height of wellbeing via its unique organization and NGO participation in global affairs.”

The importance of ILSI in advancing the understanding of scientific issues impacting human health was further emphasized by Geoffrey Smith, President of ILSI South East Asia Region. The need in partnerships among organizations, nations, regions and between private and public sectors was also presented. Complex problems like healthy aging, food safety and food security were illustrated. Dr. Nishiyama, President of ILSI Japan, echoed by inviting Taiwan to join next BeSeTo meeting and to participate in various collaborative projects in his talk titled “ILSI Japan’s expectation for ILSI Taiwan”. The mission and plan of ILSI Japan/ MAFF project were detailed by Mr. Hamano.

Dr. Shu-Jean Tsai, Director of Food Safety Division of the Taiwan Food and Drug Administration, presented the recent Amendment to the Act Governing Food Sanitation which imposes comprehensively stricter penalties on non-compliant business. She said it aims to better protect consumers with greater government and industry accountability and with more registration, labeling and traceability requirement for the industry. She stated “The revised act needs support from the industry and academia to be effective, and the platform provided by ILSI Taiwan can help provide such platform for communication and consensus building.”

The plenary speeches concluded the historical inaugural meeting. The First Assembly of Members went on to conduct routine business where the Board of Directors and officers were elected. This thus opened the era of ILSI Taiwan.

Agenda of the Inaugural Meeting and the First Assembly of Members (7/28/2013)

13:30–13:40	Call to Order & Welcome Opening Remarks Prof. Lucy Sun Huang, <i>Chairman of ILSI Taiwan Pro Tem Committee</i>
13:40–15:00	Congratulatory Remarks: Dr. Wen-Ta Chiu, M.D., Ph.D., <i>Minister, Ministry of Health and Welfare</i> Mr. Wen-Der Chen, <i>Deputy Minister, Council of Agriculture</i>
	Plenary Speech: Dr. Chih-Kuo Mao, <i>Vice-Premier and Chair, Food Safety Council of the Executive Yuan</i>
	ILSI and the value of scientific partner- ships – Perspectives from SE Asia and the world Mr. Geoffry Smith, <i>President of ILSI Southeast Asia Region</i>
	ILSI Japan’s expectation for ILSI Taiwan Dr. Tohru Nishiyama, <i>President of ILSI Japan</i> (also with presentation on ILSI Japan/ MAFF Project on “Legal Framework of Food Standards in East Asia ” by Mr. Hiroaki Hamano)
	Presentation on the Amendment to the Food Sanitation Act Dr. Shu-Jean Tsai, <i>Director of Food Safety Division, Food and Drug Administration of Ministry of Health and Welfare</i>
15:00–15:20	Tea break and press interview
15:20–16:10	The First Assembly of Members – business meeting and election
16:10–16:50	The First Board of Directors, Supervisors Meetings

Member Company List

Member Company	Member Company	Member Company
AGV Products Corporation	King Car Food Industrial Co., Ltd.	Pfizer Limited
Cerebos International Health Ltd., Taiwan Branch	McDonald’s Restaurants (Taiwan Co., Ltd.)	Standard Foods Corporation
Chien Cheng Trading Co., Ltd.	Monsanto Far East Ltd., Taiwan Branch	Taisun Enterprise Co., Ltd.
China Grain Products Research & Development Institute	Nestle Taiwan Ltd.	Taiwan Chlorella Manufacturing Co., Ltd.
Coca-Cola Far East Ltd. Taiwan Branch	Nu Skin Taiwan	Toong Yeuan Enterprise Co., Ltd.
Grape King Inc.	Nutritec-Enjoy Corporation	Uni-President Enterprises Corporation
Great Wall Enterprise Co., Ltd.	Nutritec-Enjoy Nutrition Center Inc. (NENC)	Wei Chuan Foods Corporation
Herbalife Taiwan Inc., Taiwan Branch	Orient EuroPharma Co., Ltd.	Wrigley Taiwan Limited

Officers list

Position	Name	Affiliation
President	Prof. Lucy Sun Huang	Graduate Institute of Food Science and Technology, National Taiwan University
Vice-President	Dr. Jimmy Tsai	Department of Bioscience Technology, Chung Yuan Christian University
Chairman, Board of Directors	Dr. Ter-Fung Tsao	Standard Foods Corporation
Vice-Chairman, Board of Directors	Ms. Coyea Lin	McDonald's Restaurants (Taiwan) Co., Ltd.
Executive Director (Non-elected)	Dr. Jenny Chang	