

Introductory remarks to a special issue from the “International Niigata Symposium on Diet and Health”, November 2008

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The International Niigata Symposium on Diet and Health has been held as a part of the program of Niigata World Forum on Foods and Flowers since 2004 in Niigata, a city located in the west coast of Main island of Japan. The 4th Symposium held in November 2008 was brushed up to be more academic and over 70 papers were presented either orally or by posters. It is well recognized that the daily diet plays a critical role in disease prevention and health promotion. “Food is medicine” is an old tale in the oriental traditional medicines but we need to reevaluate this idea with modern scientific approach. Indeed, the physiological or pharmacological functions of food factors attract attention and were classified as the third function of food in addition to the nutritional and sensory roles as the primary and secondary function, respectively. Following the early studies of active ingredients as antioxidant, molecular mechanistic analysis of biofactors function including certain flavonoids and non-flavonoid ingredients revealed that

many of their functions are performed through manipulation of certain gene expression associated with carcinogenesis or cardiovascular aging process at transcriptional and epigenetic levels. Accumulated data on the food factors and their biological functions not only suggest the importance of food design of daily diet but also facilitates development of functional foods or neutraceuticals designed for health promotion and disease prevention. Chemoprevention and anti-aging is the important field of study of food factors, and the combination of western medicine and dietary factor becomes more promising approach to treat complex diseases including cancer. Thus, the 4th INS focused “the integrated functions of diet in anti-aging and cancer prevention”.

Three review and one original papers were selected from the INS presentations and were included in the special section of Gene and Nutrition as the typical topics related to the above issues.

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