Introduction of the Workshop
"Indicators Used in Risk Assessment of Food Safety"

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＜Summary＞

ILSI Japan Food Safety Research Committee Risk Assessment Task Force held a workshop entitled "Indicators used in risk assessment of food safety" on November 1, 2010. Dr. Akihiko Hirose, the director of division of risk assessment, biological safety research center, NIHS, lectured on this workshop.

The risks from exposure to chemical contaminants in food must be scientifically assessed, in order to safeguard the health of consumers. Risk assessment of chemical contaminants that are both genotoxic and carcinogenic presents particular difficulties, since the effects of such substances are normally regarded as being without a threshold. To assess the urgency and extent of the risk reduction measures, several new approaches such as VSD (virtually safe dose), MOE (Margin of exposure), TTC (threshold of toxicological concern) have been developed. Low-dose linear extrapolation from animal carcinogenicity studies or epidemiological studies to estimate risks for humans at low exposure levels has been applied by a number of regulatory bodies, while more recently MOE approach has been applied by both the European Food Safety Authority and the Joint FAO/WHO Expert Committee on Food Additives. A further approach is TTC, which establishes exposure thresholds for chemicals present in food, dependent on structure. Recent experimental evidence that genotoxic responses may be thresholded has significant implications for the risk assessment of chemicals that are both genotoxic and carcinogenic. In relation to existing approaches such as linear extrapolation (VSD), MOE and TTC, the existence of a threshold reduces the uncertainties inherent in such methodology and improves confidence in the risk assessment.

For other lecture contents, a new application of an uncertain coefficient, an interspecies scaling approach, a new assessment decision tree for carcinogenic contaminants in drinking waters by the Japan Food Safety Commission (FSC) formed under the Cabinet Office, etc., were shared. Based on the result of this workshop, ILSI Japan risk assessment taskforce will plan to inform and share the information of the MOE approach and supported technical terms of risk assessment in food safety fields on a homepage of ILSI Japan.