

AstraZeneca K.K. Luncheon Seminar

DATE May 16, 2015 (sat) 12:30 to 13:30

VENUE Pacifico Yokohama Room 304

PROGRAM

Cherman : Prof. Tatsuya Sugawara
Division of Applied Biosciences,
Graduate School of Agriculture,
Kyoto University

『 Is the Composition of Fatty Acids in Dietary Fat Relevant to Metabolic Syndrome Caused by the Inflammatory Process? 』

In recent years, experiments with the *ob/ob* mouse, an animal model of obesity, and molecular- and cellular-level investigations have shown low-grade inflammation in visceral adipose tissues to contribute to the onset and progression of metabolic syndrome. More specifically, it is hypothesized that severe obesity invites infiltration into the visceral adipose tissue stroma by macrophages and other inflammatory cells, which synthesize and release inflammatory cytokines (e.g., IL-6, TNF- α , MCP-1) that directly or indirectly affect adipocyte metabolism, leading to diabetes mellitus, hypertension and lipid metabolism disorders. Indeed, an investigation into the relationship between inflammatory markers and the accumulation of risk factors for metabolic syndrome in obese men showed increased levels of high-sensitivity CRP, IL-6 and TNF- α in patients who have accumulated more risk factors. It is thought that diet, particularly the composition of fatty acids in dietary fat, changes both serum lipid levels and the composition of fatty acids in visceral adipose tissue, which has major implications for metabolic function in the body. When absorbed by the small intestine, long-chain triglycerides from dietary fat proceed as chylomicron triglycerides via the lymphatic system, bypassing the liver, entering the blood to arrive at adipose tissue. The types of fatty acids in dietary fat are thus reflected in the composition of triglyceride fatty acids in the adipose tissues. In this presentation, I will discuss the effects of composition of fatty acids in dietary fat on the onset of metabolic syndrome triggered by the inflammatory process.

Lecturer : Dr. Mituo Ohni
Kyorin University School of Medicine,
Department of Gerontology

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