

[ 14:00 ~ 14:10 ]

**Recent progress on the pharmaceutical and biochemical sciences  
on obesity**

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Obesity is one of the most serious problems in human life which may cause various diseases, i.e., cancer, hypertension and diabetes. The biochemical and clinical researches on this issue have been widely studied worldwide, and the mechanism and improvement of obesity have been gradually clarified. In this workshop, three distinguished speakers from clinical, biochemical and pharmaceutical development fields have been invited. Professor Yasushi Saito is a high prestigious worldwide in terms of the study of obesity. As the physician he has worked on molecular mechanism for the pathogenesis of obesity-accompanied metabolic disorders. Dr. Saito's group has established the unique method to clarify whether the functional differences between visceral and subcutaneous adipocytes depend on their anatomical location. 3T3-L1 cells or TNF- $\alpha$  overexpressing CHO cells were implanted into subcutaneous fat area or mesenteric area as visceral fat area in athymic mice of BALB/C strain mice. Body weight during experimental periods did not differ among the mice implanted with 3T3-L1 cells into mesenteric and subcutaneous area, and control. These information will contribute to the treatment of obesity-caused diseases. Professor Itsuko Ishii has worked on the involvement of cholesterol metabolism. She will present the biochemical aspect of obesity relating to atherosclerosis and strokes at the workshop. The focus of her talk is to emphasize the engorgement of macrophase

with cholesterol. Activated human macrophages uptake LDL by the bulk-phase fluid, and aggregated LDL by pinocytosis. After incorporation of LDL and aggregated LDL into macrophages, neutral cholesterol esterase is decreased and cholesterol efflux is also decreased, resulting that macrophages become foam cells. These findings should be effective to understand the involvement of synthesis and degradation of cholesterol in obesity. Dr. Yoshio Tsujita has worked on new drug development for long time. Particularly, he has been involved in the development of anticholesterol agents, and recently pravastatin, one of the best marketing drugs for hyperlipidemia and hypercholesterolemia was developed. In this workshop, he is talking about the development and mechanism of action of pravastatin. Pravastatin strongly inhibits the cholesterol synthesis, and reduces atherogenic lipoprotein cholesterol in humans. In addition, pravastatin shows several pleiotropic effects including stabilization of plaque, anti-diabetic effect and so on.

As the organizer I believe that the presentations in this workshop should be extremely beneficial for the audiences to understand the update development of obesity studies.