

**[P3-1]****Effect of Dietary Fibers on Lipid Metabolism and Immune Function of Aged Sprague-Dawley Rats.**Beong Ou Lim<sup>1,2</sup>, Sun Hee Lee<sup>1</sup>, Ju Young Kim<sup>1</sup> and Ryo Won Choue<sup>1,2</sup><sup>1</sup>Department of Medical Nutrition, Graduate School of East-West Medical Science, Kyung Hee University.<sup>2</sup>Research Institute of Clinical Nutrition, Kyung Hee University

We have been reported that some dietary fiber enhance serum immunoglobulin (Ig) levels and Ig productivity of spleen and mesenteric lymph node (MLN) lymphocytes in young Sprague-Dawley (SD) rats. In the present study, we also examined the effect of dietary fiber on serum lipid levels in aged rats and compared to the results obtained in young rats. Eight-month-old SD rats were fed the diets containing dietary fibers at the 5% level for 3 weeks to examine the effect on lipid metabolism and immune function. Among cellulose, guar gum, partially hydrolyzed guar gum (PHGG), glucomannan and highly methoxylated pectin, guar gum induced a significant decrease in food intake and weight gain, as well as significant increase in liver weight. In addition, epididymal adipose tissue weight of the rats fed PHGG was significantly higher than the rats fed cellulose. There was no significant effect in serum lipid levels, but serum IgG level of the rats fed guar gum was significantly lower than that of the rats fed cellulose. In MLN lymphocytes, IgA and IgG productivity was significantly higher in the rats fed guar gum, glucomannan or pectin than those fed cellulose, while the effect on Ig productivity in spleen lymphocytes is not so marked. In addition, guar gum solely induced a significant increase of IgM productivity in MLN lymphocytes compared to the cellulose group. These results suggest that the enhancement of immune function by dietary fibers is mainly expressed in gut immune system. (This work was supported by a grant of the Korea Health 21 R&D Project, Ministry of Health & Welfare, Korea, (02-PJ1-PG3-22005-0015))