

Comparison of the effect between DPP-4 Inhibitors on lipid profile of patients with type 2 diabetes

Division of Endocrinology & Metabolism, Department of Internal Medicine, St. Vincent's hospital, The Catholic University of Korea

*Heung-Seok Kim, Tae-Seok Lim, Seung-Hyun Ko, Jae-Seung Yun, Seon-Ah Cha, Ho-Wook Jeon, Yu-Bae Ahn

Objective: We investigated the effects of two classes of dipeptidyl peptidase-4 (DPP-4) inhibitors, linagliptin and gemigliptin, on lipid profiles of patients with type 2 diabetes. **Research Design and Methods:** In the retrospective study, a total of 135 patients with type 2 diabetes were enrolled. Linagliptin (LG, 5 mg once daily, n=67) or gemigliptin (GG, 50 mg once daily, n=68) were added to their existing hypoglycemic medications. After 24 weeks, lipid parameters, including total cholesterol (TC), triglyceride (TG), high density lipoprotein cholesterol (HDL-C), and low density lipoprotein cholesterol (LDL-C) were measured. **Results:** The mean age and diabetes duration were 57 ± 9.6 and 8.0 ± 6.3 years, respectively. There were no differences in baseline characteristics such as age ($p=0.319$), diabetes duration ($p=0.832$), HbA1c ($p=0.465$), and lipid profiles. After 24 weeks of treatment, the changes of HbA1c from baseline were similar between groups ($p=0.174$). Regarding to lipid profiles, TC level was significantly decreased after treatment in both groups ($p<0.05$ in each), but there were no significant differences in the changes of TC levels between LG and GG group ($p=0.06$). At 24 weeks, LDL-C level was more decreased in the LG group (-9.2 ± 24.6 mg/dL, $p=0.048$) compared with that of the GG group (-6.8 ± 28.9 mg/dL, $p=0.063$). However, LDL levels at 24 weeks were similar between the two groups ($p=0.083$). **Conclusions:** Linagliptin and gemigliptin showed similar effects on TC and TG for 24 weeks of treatment. TC levels were significantly decreased after treatment in both groups. But linagliptin showed a significant decrease in LDL-C level compared to gemigliptin during the study period.

Sex-specific relationship between body fat distribution and diabetes mellitus

¹Department of Internal Medicine, Yonsei University, Wonju College of Medicine, Korea, ²Department of Obstetrics and Gynecology, Yonsei University, Wonju College of Medicine, Korea

S.I. Choi¹, D. Chung², *J. H. Huh¹, J. S. Lim¹, M. Y. Lee¹, J. Y. Shin¹, C. H. Chung¹

Aims: The aim of this study was to investigate the association between regional body fat distribution, especially leg fat mass, and the presence of diabetes mellitus (DM) in older populations. **Methods:** A total of 3,181 men and 3,827 postmenopausal women aged 50 years or older were analyzed based on Korea National Health and Nutrition Examination Surveys (2008-2010). Body compositions including muscle mass and regional fat mass were measured using dual-energy X-ray absorptiometry. **Results:** The odds ratios (OR) for DM was higher with increasing truncal fat mass and arm fat mass while it was lower with increasing leg fat mass. In partial correlation analysis adjusted for age, leg fat mass was negatively associated with glycosylated hemoglobin in both genders and fasting glucose in women. Leg fat mass was positively correlated with appendicular skeletal muscle mass and HOMA- β . In addition, after adjusting for confounding factors, the OR for DM decreased gradually with increasing leg fat mass quartiles in both genders. When we subdivided the participants into four groups based on the median values of leg fat mass and leg muscle mass, higher leg fat mass significantly lowered the risk of DM even though they have smaller leg muscle mass in both genders ($p<0.001$). **Conclusions:** The relationship between regional fat mass and DM is different according to body fat distribution. Higher leg fat mass was associated with a lower risk of DM in older Korean populations. Maintaining leg fat mass may be important to prevent impaired glucose tolerance.