The purpose of this study was to compare adipocytokines and differences of obesity-related metabolic syndrome indices according to waist circumference and body mass index in mid-life women. A total of 30 women voluntarily participated in the study and they were further classified as either obesity I woman who met waist circumference criterion of >80 cm (Asian standard) (n=18, 42.6±5.2yrs) or obesity II woman who met both criteria of waist circumference and BMI of >25 kg/m² (n=12, 45.0±4.6yrs).

Anthropometric variables (i.e., BMI, waist circumference, BF%, WHR), cardiopulmonary fitness, circulating lipids (TG, TC, HDLC, LDLC), glucose, insulin, leptin and adiponectin were compared between the two groups. In addition, they all underwent an oral glucose tolerance test of 70 g carbohydrate for 2 hours.

In the group analyses, the obesity II group had significantly higher values of obesity indices than the obesity I group, with no significant group difference in cardiorespiratory fitness. With respect to metabolic syndrome indices, the obesity II group had significantly higher values of TG, glucose, area under curve of oral glucose tolerance test, BP, and leptin than the obesity I group, with no group difference in adiponectin level.

The current findings of the study suggest that utilizing both criteria of abdominal obesity such as BMI and waist circumference would provide and additional and useful diagnostic information regarding the status of obesity-related metabolic syndrome in mid-life women.

Keywords: Metabolic Syndrome, Cytokines, Body Composition