Clinical Diagnosis of Metabolic Syndrome

3. Diagnostic Criteria for Metabolic Syndrome in Japan and Its Clinical Significance

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Over-nutrition due to the change in dietary habits and lifestyle in the Japanese population has become a problem as the essential role in various common disorders, such as hyperglycemia, dyslipidemia and hypertension, leading to the development of cardiovascular disease. In recent several years, such a multiple risk factor clustering syndrome has been termed, “metabolic syndrome”. It has been pointed out that the accumulation of intra-abnormal visceral fat is closely related to these disorders. The definition and diagnostic criteria for metabolic syndrome in Japanese was established at April 2005. In this criteria, waist circumference (Wc) was adopted an indispensable component as a marker of visceral fat accumulation. The cutoff points were 85 cm of men and 90 cm of women, which were based on the cutoff value of visceral fat area determined by CT scan. In addition to have large Wc, 2 or more of three components such as dyslipidemia, hypertension and hyperglycemia is diagnosed as having metabolic syndrome.

Recently, the function of adipocytes has been intensively investigated. It was found that dysregulated production of adipose-derived secretory factors, ‘adipocytokines’, is considered an important pathogenic mechanism in this syndrome. For example, adiponectin was identified as an adipocyte-specific secretory molecule with anti-diabetic and antiatherogenic properties. Plasma adiponectin levels are decreased in visceral fat obesity, leading to a high incidence of diabetes and atherosclerosis. Accordingly, visceral fat accumulation, leading to dysregulation of adipocytokines, plays a crucial role in the pathophysiology of the metabolic syndrome.

Now we are also carrying out a trial of health intervention for a large group of city officers from the standpoint of metabolic syndrome. This intervention may be useful as a strategy for preventing cardiovascular diseases.