Obesity in Japan

Obesity is increasing over the world and has become a common health problem not only in developed countries but also in many developing countries. In several countries such as the United States and Mexico, obese individuals having a body-mass index (BMI) of 30 or more exceed 30% of the population. In Japan, the percentage of people having a BMI of 30 or more is only 2%, which is equal to that in Korea. However, the prevalence of diabetes in Japan is as high as the United States and is increasing very rapidly. A national survey on diabetes held in Japan indicates this using glycated hemoglobin A1c (HbA1c) as criteria of diabetic condition. They designated ≥6.1% of HbA1c as diabetic and 5.6-6.0% as prediabetic condition. The prevalences of diabetic and prediabetic adults were 8.2% and 8%, respectively in 1997, 9.0% and 10.6% in 2002, and 10.5% and 15.1% in 2007. Therefore, in the last 10 years the rates of diabetic and prediabetic conditions increased 9.4% in Japanese adults. Considering this serious trend, the Ministry of Health, Labour and Welfare in Japan, started a campaign for prevention of metabolic syndrome and conducted a health check-up for metabolic syndrome in 2008 all over Japan. Taking account of these high prevalences of diabetic and prediabetic conditions, the criterion for obesity for Japanese people was taken as a BMI of 25. Criteria for upper-body obesity are 85 cm for men and 90 cm for women. A national nutrition survey revealed that Japanese male adults with a BMI of 25 or more has increased consistently in the last 20 years in all age groups. On the other hand, it has decreased in female adults up to 59 years old and lean women, having a BMI of less than 18.5, have increased up to 49 years old. Therefore, an increase of obese men and increase of lean women are characteristic trends of Japanese adults.

Relationship between Obesity and Periodontal Disease

Obesity increases the risk of various adult diseases including type 2 diabetes, hyperlipemia, hypertension, diabetes, and periodontal disease. Among several adipokines, the serum levels of resistin, which is thought to be associated with diabetes and arteriosclerosis, were elevated in subjects with periodontitis. In this review article, we summarize reports on the relationship between obesity and periodontal disease and studies on the relationship between adipokines and periodontal disease.

Key words: Periodontal disease, Obesity, Type 2 diabetes, Adipokine, Inflammation

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Abstract: Obesity, which is increasing over the world, is a significant risk for lifestyle related diseases, especially type 2 diabetes. Recent studies suggest an association between obesity and periodontal disease, both of which are prevalent world-wide. The number of such studies has increased in the last 10 years, which impresses upon us that periodontal diseases are associated with obesity and metabolic syndrome, although the causality is not clear at present. On the other hand, periodontal disease is thought to affect the glucose condition of diabetic patients, and several recent studies have indicated that periodontal disease is one of the risk factors for type 2 diabetes. If there exists a direct association between obesity and periodontal disease, then a triangular relationship between obesity, diabetes, and periodontal disease may emerge. To clarify this, we started research on adipokines which are bioactive substances secreted from adipose tissues. Among several adipokines, the serum levels of resistin, which is thought to be associated with diabetes and arteriosclerosis, were elevated in subjects with periodontitis. In this review article, we summarize reports on the relationship between obesity and periodontal disease and studies on the relationship between adipokines and periodontal disease.

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Review