The prevalence of obesity is increasing worldwide, and this is one of the major health issues associated with morbidity and mortality. Obesity has rapidly increased in Asian countries over the past few decades, as a result of the Westernization of lifestyle. The classification of obese is usually based on body mass index (BMI), calculated as weight in kilograms divided by squared height in meters (kg/m²). The standard definition of overweight is BMI 25.0–29.9 kg/m², and obese, BMI ≥30 kg/m². These cut-offs were defined using studies involving Western populations. According to this cut-off, the prevalence of obesity (≥30) is only 2–4% in East Asia (China, Japan, Korea), in contrast to 10–20% in Europe and the USA. Asian people have a higher range of percent body fat for the same level of BMI than Caucasian people. Body composition is also the main determinant of difference in type 2 diabetes pathophysiology between Japanese and Caucasian people. Therefore, the optimal cut-off for obesity in Asian populations could be different to that of Western subjects. The International Obesity Task Force recommended the lower cut-offs of BMI ≥23 kg/m² for overweight, and ≥25 kg/m² for obese for Asian people, according to the risk for type 2 diabetes and hypertension.

Focusing on the cardiovascular risk, an increase in BMI is associated with hypertension, diabetes, and hyperlipidemia. It also directly affects cardiac structure and function. Lee et al investigated the relationship of left ventricular (LV) diastolic function to obesity and using the Western cut-offs. They showed that the increased risk of diastolic dysfunction in overweight and obese Japanese subjects was greater than in Western subjects, but this has not been studied using Asian cut-offs in a sufficiently large subject group. In this issue of the Journal, Park et al reported the effect of overweight and obesity on LV diastolic function and LV geometry. They investigated 31,334 apparently healthy Korean adults to find that BMI, rather than overweight (≥23 kg/m²), was associated with impaired LV diastolic function, remodeling, and hypertrophy. There was a positive dose-response relationship with BMI. Their subjects were relatively young (mean age, 40±8 years), and only 2% of the population were older than 60 years. Therefore, their finding might not be extrapolated to elderly people and other ethnic groups directly, but overweight could be a risk factor for LV diastolic dysfunction in young and middle-aged East Asian adults. Zheng et al reported on the association between BMI and the risks for death from any cause and specific causes in 1 million Asian subjects. There was a U-shaped association between BMI and risk of death from cancer, and from cardiovascular disease in East Asian subjects, and this U shape was similar to the European trend. The lowest risk of death was associated with the BMI range 23–27 kg/m². In that study, they analyzed Indian and Bangladeshi subjects separately from East Asian subjects, because there is a considerable heterogeneity between these two populations, and reported that the association was not seen in the Indian and Bangladeshi subjects. While morbidity and mortality are important issues, disability in elderly people is also a big issue due to the increase in the aging population. A recent study investigated the relationship between BMI and the incidence of cause-specific disability due to dementia, stroke, and joint disease in elderly Japanese people. It showed that BMI 23–29 kg/m² did not pose a significantly high risk for any-cause disability.

Thus, when you think about the effect of obesity on health, you should notice that the effects may differ depending what you see on, ie, mortality for any cause or specific cause, the risk for specific disease or disability. In addition, the age and racial characteristics of the study population should also be taken into account.

The opinions expressed in this article are not necessarily those of the editors or of the Japanese Circulation Society.

References

Obesity and Overweight in Asian People
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