

Obesity and cardiovascular disease

Prof. Panos Vardas

President of the European Society of Cardiology; University Hospital of Heraklion Crete, Greece

Summary

Obesity is a new epidemic not only in industrialised countries but also in countries of average or low Gross Domestic Product.

Through a large number of epidemiologic studies, it has been widely recognised that obese individuals have higher cardiovascular disease related morbidity and mortality rate, and weight reduction is associated with improved risk factor profile.

Focusing partly on coronary heart disease and its connection to obesity, it seems that the pathophysiology of the disease is indirectly related to obesity through common covariants for both diseases.

The most important covariants are arterial hypertension, dyslipidemia, particularly reduction in HDL cholesterol, and impaired glucose tolerance or non-insulin dependent diabetes mellitus.

Insulin resistance and accompanying hyperinsulinemia are typically associated with these comorbidities.

Although most of the two situations mentioned above relating obesity to Coronary Artery Disease (CAD) increase as Body Mass Index (BMI) increases, they are also connected with body fat distribution.

Left ventricular hypertrophy is quite common in obese patients and, to some degree, associated with systemic hypertension. Abnormalities in left ventricular mass and function also occur in the absence of hypertension and may relate to the severity of obesity. Hypertension is three times more common to obese individuals than to normal-weight ones.

While quite a few studies have linked obesity to the occurrence of CAD, other important studies in the last years have shown that among patients having been reperfused or suffered acute coronary syndromes, morbidity and mortality rates are

lower for those with moderate obesity. In other words, it seems that the relation between BMI and mortality is U shaped.

In conclusion, obesity as a new epidemic from childhood to adulthood is directly and mainly indirectly connected to a series of cardiovascular diseases leading to high morbidity and mortality rates.