Prevalence and Clinical Profile of Metabolic Obesity and Phenotypic Obesity in Asian Indians

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Abstract

Background:

We estimated the prevalence of metabolically obese nonobese (MONO), metabolically obese obese (MOO), and metabolically healthy obese (MHO) individuals and correlated this with the prevalence of coronary artery disease (CAD) compared to metabolically healthy nonobese (MHNO) in urban South Indians.

Method:

Study subjects (n = 2350) were recruited from the Chennai Urban Rural Epidemiology Study. Generalized obesity was defined as a body mass index (BMI) ≥25 kg/m^2, based on the World Health Organization Asia Pacific guidelines. Metabolic syndrome (MS) was diagnosed based on the South Asian Modified-National Cholesterol Education Programme criteria. Coronary artery disease was defined by known myocardial infarction or Q waves on resting electrocardiogram.

Results:

Metabolically obese nonobese was defined as nonobese subjects (BMI < 25 kg/m^2) with MS, MOO as obesity (BMI ≥ 25 kg/m^2) with MS, MHO as obese subjects (BMI ≥ 25 kg/m^2) with no MS, and MHNO as no obesity or MS. Metabolically obese nonobese was identified in 355 (15.1%), MOO in 348 (14.8%), MHO in 312 (13.3%), and MHNO in 1335 (56.8%) subjects. The prevalence of CAD among the MONO, MOO, MHO, and MHNO was 5.5%, 4.2%, 1.4%, and 2.6%. However, when age standardization was done, there was no statistically significant increase in the risk of CAD among MONO [odds ratio (OR) = 1.300, 95% confidence interval (CI) 0.706–2.394, p = .339], MOO (OR = 1.651, 95% CI 0.852–3.199, p = .137), and MHO (OR = 0.524, 95% CI 0.250–2.130, p = .564) groups compared to MHNO, perhaps due to small numbers.

Conclusion:

Metabolic obesity may have different clinical implications than phenotypic obesity.

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