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Abdominal obesity phenotypes and risk of cardiovascular disease in a decade of follow-up: The Tehran lipid and glucose study

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Objective: Obesity is a heterogeneous condition and risk of related health outcomes in different obesity phenotypes is a controversial subject. In this study, we aimed to evaluate the risk of cardiovascular disease (CVD) in different abdominal obesity phenotypes during a decade-long follow-up.

Methods: In this large population-based cohort, 7122 participants (42.7% men), aged \geq 30 years, from the Tehran Lipid and Glucose Study (TLGS) were enrolled. Abdominal obesity was defined using national waist circumference cut-off points of \geq 89 cm for men and \geq 91 cm for women. Metabolic health was defined as \leq 1 components of metabolic syndrome (excluding waist circumference), using the Joint Interim Statement (JIS) definition.

Results: At baseline, 3745 individuals (52.7%) were abdominal obese and 23.5% (n=881) of these were categorized as "metabolically healthy abdominal obese" (MHAO). A total of 638 CVD events occurred during a median follow-up of 10 years (1999-2011). "Metabolically healthy non-abdominal obese" was considered as the reference group. After adjustment for various variables, MHAO individuals were at increased risk for CVD events compared with the reference group (HR: 1.64, CI: 1.09-2.47). Both the metabolically unhealthy phenotypes (with and without abdominal obesity) were also at increased risk. We also observed the same pattern using insulin resistance data for categorizing abdominal obesity phenotypes.

Conclusion: Abdominal obesity and presence of metabolic derangements are both important risk factors for future CVD. MHAO may not be a benign condition regarding future CVD events, which highlights the importance of prevention and treatment of abdominal obesity, even in the absence of metabolic derangements.

Biography

Maryam Barzin is a general physician and PhD candidate working as a Senior Researcher at the Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran since 2008. She has been under the supervision of Prof. Fereidoun Azizi and Prof. Farhad Hosseinpanah for 7 years. She is an expert in advanced research methodology and statistical software including SPSS, STATA, SAS and Nodixcel). Her fields of interest are abdominal obesity, childhood obesity, cardiovascular outcomes and bariatric surgery.

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