NORMAL-WEIGHT CENTRAL OBESITY AND CARDIOVASCULAR MORTALITY RISK IN HYPERTENSIVE PATIENTS

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Background: We hypothesized that hypertensive people with normal body weight but central distribution of fat, so called normal weight-centrally obese (NWCO) have higher cardiovascular (CV) mortality.

Methods: We analyzed 4474 people with systemic hypertension (HTN) aged ≥18 yr from the National Health and Nutrition Examination Surveys III. People with history of COPD and cancer were excluded. Subjects were stratified into 3 categories of BMI and 2 categories of waist-to-hip ratio (WHR) using standard definitions. With weighted Cox-proportional hazard analyses we evaluated the relationship of different adiposity patterns and CV mortality using 3 models: Basic: adjusted for age and gender; Main: Basic + race, smoking status and baseline BMI; and Explanatory: main + diabetes, systolic BP and dyslipidemia.

Results: Mean age was 54.1 years, 50.7% were females. Median follow-up was 12.9 years, 1755 deaths were reported, from which 859 were CV. Subjects with NWCO had the same risk for CV mortality as those who were obese by BMI (Figure). After adjusting for obesity-related CV risk factors, the association between NWCO and CV mortality disappeared (HR-1.40, 95%CI 0.83;2.37, p=0.21), suggesting that the adverse effect of NWCO is mediated through these factors.

Conclusions: The combination of abnormal waist-to-hip ratio and normal weight by BMI yields significantly increased CV mortality risk in patients with HTN. Diabetes mellitus, systolic BP and dyslipidemia appear to mediate this association.