ASSOCIATION OF BODY MASS INDEX WITH RISKS OF MYOCARDIAL INFARCTION AND ISCHEMIC STROKE IN YOUNG WOMEN: A NATIONWIDE STUDY

Moderated Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Body Size and MI Risk: Is Bigger Better?
Abstract Category: 1. Acute Coronary Syndromes: Clinical
Presentation Number: 1128M-197

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Background: The need for research in cardiovascular risk factors in young women has been emphasized worldwide. We examined the impact of obesity on risk of myocardial infarction (MI) and ischemic stroke in a nationwide study of women who had given birth.

Methods: Using nationwide registers we identified women with no history of acute coronary syndrome, stroke or renal insufficiency, who had given birth in the period 2004-2009. The women were grouped into four body mass index (BMI)-groups, i.e., underweight (BMI<18.5 kg/m2), normal weight (BMI 18.5-24.9 kg/m2), overweight (BMI 25-29.9 kg/m2) and obese (BMI≥30 kg/m2). Cox proportional hazards regression was used to assess risk of MI and stroke using normal weight women as reference.

Results: The population comprised 273,097 women. Mean age was 30.5±4.9 years and mean follow-up was 4.3±1.7 years. During follow-up, 68 women experienced an MI whereas 174 women experienced an ischemic stroke. Unadjusted hazard ratios (HRs) of MI were 2.61 (95% confidence interval [CI] 1.01-6.75) in underweight, 1.82 (CI 1.00-3.31) in overweight, and 3.35 (CI 1.84-6.10) in obese, respectively. With regard to ischemic stroke, unadjusted HRs were 1.13 (CI 0.52-2.43), 1.36 (CI 0.94-1.96) and 2.07 (CI 1.40-3.06) in underweight, overweight and obese, respectively. The results were congruent in multivariate analyses (figure).

Conclusions: In this nationwide study of young women, BMI predicted MI and ischemic stroke and a U-shaped relation between BMI and risk of MI was demonstrated.