Abstract: **P5297**

**Body weight in adolescent men in Sweden and risk of an early acute coronary event.**

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**Background:**
To improve cardiovascular disease (CVD) prevention, knowledge of early key risk factors, especially those that are modifiable such as overweight and obesity, is essential.

**Purpose:**
We aimed to determine whether body mass index (BMI) at age 18 predicted early acute coronary events among men in Sweden.

**Methods:**
Population-based Swedish cohort study of conscripts (n=1,668,921; mean age at baseline, 18.3 years) who enlisted during 1968-2005. Follow-up was done through linkage to the nationwide Swedish patient- and death registries. Risk of an acute coronary event (hospitalization for acute myocardial infarction or coronary death) during follow-up (5-46 years) was calculated with Cox proportional hazards models. Objective baseline measures of fitness and cognition were included in the models in a second set of analyses.

**Results:**
During follow-up there were 22,412 acute coronary events (mean age at diagnosis, 50.2 (SD 7.4) years, maximum 64 years). Compared with men with BMI of 18.5 to 20.0 kg/m\(^2\), men with BMI 20 to <22.5 and 22.5 to <25.0 kg/m\(^2\) had hazard ratios (HR) of 1.17 (1.12-1.43) and 1.51 (1.44-1.59), respectively, for an acute coronary event, after adjustment for age, year of conscription, comorbidities at baseline, parental education, blood pressure, IQ, muscle strength, and fitness. Those with a BMI of \( \geq \)35 kg/m\(^2\) had an HR of 3.47 (2.75-4.39) for an event before the age of 65. The multiple-adjusted risk per 1-unit increase in BMI was 1.10 (95% CI, 1.09-1.10).

**Conclusion:**
We found a rise in risk of an early acute coronary event detectable already at normal levels of body weight at age 18, and rising to more than 3-fold in the highest weight category. Given increasing levels of body weight, and prevalence of overweight and obesity in young adults, the current decrease in coronary heart disease incidence in Sweden may flatten or even reverse in the near future.