



Body composition and body fat distribution in relation to later risk of acute myocardial infarction: a Danish follow-up study.

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Abstract:

Obesity is a modifiable risk factor for acute myocardial infarction (MI), but lean body mass (LBM) may also be an important factor. Low LBM may increase the risk of MI and LBM may modify the effect of obesity on MI. Thus, the inability of the classical anthropometric measures to evaluate LBM may lead to misclassification of MI risk in both lean and obese persons. We investigated the associations between incident MI and bioelectrical impedance analyses (BIA) derived measures of body composition in combination with body mass index (BMI) and anthropometric measures of body fat distribution.

From 1993 to 1997, 27,148 men and 29,863 women, aged 50 to 64 year, were recruited into the Danish prospective study Diet, Cancer and Health. During 11.9 years of follow-up we identified 2028 cases of incident MI (1487 men and 541 women). BMI, waist circumference (WC), hip circumference and BIA of body composition including body fat mass (BFM), body fat percentage and LBM were measured at baseline. We used Cox proportional hazard models with age as time axis and performed extensive control for confounding. Weight, BMI, classical estimates of abdominal obesity and BIA estimates of obesity showed significant positive associations with incident MI. However, BFM adjusted for WC showed no association. Low LBM was associated with a higher risk of incident MI in both genders, and high LBM was associated with a higher risk in men.

Obesity was positively associated with MI. Estimates of obesity achieved by BIA seemed not to add additional information to classical anthropometric measures regarding MI risk. Both high and low LBM may be positively associated with MI.

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