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Birth weight and coronary heart disease among Danish men

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Background and objective: Small size at birth have been associated with higher risk of cardiovascular disease (CHD) and a few studies have suggested that weight gain during in childhood adds to the risk. In this study we examine the association between birth weight and incident coronary heart disease (CHD) and explores whether socioeconomic factors and body mass in young adulthood influence any associations.

Methods: A cohort of 9 148 men born in Copenhagen, Denmark in 1953 for whom information on birth dimensions have been retrieved from birth registers were followed from 1978 until 2005 for CHD outcomes obtained from the Danish National Patient Registry.

Results: During follow-up 443 of the men had a discharge diagnosis of CHD. Men with low birth weight, a father from working class, high body mass index (BMI) and low education at age 18 years had an increased risk for CHD. BMI modified the relation between birth weight and CHD. Thus, low birth weight was inversely associated with an increased risk in men who had a BMI in young adulthood of 25 kg/m² or above, while for men with BMI below 25 kg/m² the association was U-shaped. Adjustment for social circumstances during childhood and educational status at age 18 years had only minor influence in the estimates. Ponderal index was not associated with CHD risk.

Conclusion: The combination of low birth weight and high BMI in young adulthood seems to increase the risk of CHD in early middle-age.