Increased carotid plaque burden in men with the fibrillin-1 2/3 genotype.

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Abstract
Fibrillin-1 (FBN1) is an important constituent of the vascular wall and earlier studies have indicated an effect of the FBN1 2/3 genotype on blood pressure as well as aortic stiffness in men. The aim of the present study was to determine whether the FBN1 2/3 genotype was associated with the presence of carotid plaque and incident cardiovascular morbidity and mortality in middle-aged subjects. The FBN1 genotype was characterized in 5765 subjects (2424 men, 3341 women; age 45-69 years) recruited from the Malmö Diet and Cancer Study Cardiovascular Cohort, Sweden. Plaque occurrence and intima-media thickness (IMT) of the carotid artery were assessed by ultrasound. The incidence of first cardiovascular events (myocardial infarction and stroke) and cause-specific mortality were monitored over a mean follow-up period of 13.2 years. The most common FBN1 genotypes were 2/2, 2/3 and 2/4, which accounted for 92.2% (n = 5317) of subjects. There were no differences between the three genotypes regarding age, blood pressure, glucose, lipids, smoking habits, common carotid artery diameter and intima-media thickness in men and women. The presence of plaque in the carotid artery was higher in men with the 2/3 genotype compared with the 2/2 and 2/4 genotypes (55% vs 46% and 50%, respectively; P = 0.007). No similar differences were observed in women. No significant relationship was observed between FBN1 genotypes and the incidence of cardiovascular disease or all-cause mortality. The increased prevalence of plaque in the carotid artery of middle-aged men with the FBN1 2/3 genotype indicates pathological arterial wall remodelling with a more pronounced atherosclerotic burden.

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