Tissue factor promotor polymorphism -603 A/G is associated with myocardial infarction.

Abstract:
Tissue factor (TF), the main initiator of the extrinsic coagulation cascade is expressed in atherosclerotic lesions and contributes to coronary thrombus formation in myocardial infarction (MI). Circulating TF reflects intravascular TF activation but also adds to prothrombotic activation. Because the G allele of the TF promotor polymorphism -603 A/G is associated with monocytic mRNA expression we evaluated its association with myocardial infarction, based on a recessive deleterious effect assumption. Patients with MI (MI; n=793) and age and sex matched control subjects without coronary artery disease (C; n=340) undergoing coronary angiography were included. In patients with MI, the -603 G (MI: 76%, C: 70%) allele was prevalent compared to the control group (P=0.04). Multivariate analysis revealed an odds ratio of 1.44 (confidence interval 1.07-1.93). Carriage of the -603 G allele is associated with an increased risk for myocardial infarction. Because higher plasma TF concentrations are found in -603 G carriers enhanced TF expression may be the mechanism underlying this association.