Acute myocardial infarction with ST-segment elevation (STEMI) is rare in adolescents and its pathogenesis is unclear. Growing evidence shows an association between the prothrombotic state and acute STEMI. Prothrombotic genetic factors may be involved in the pathogenesis of STEMI. We present a case of an adolescent with acute STEMI who had multiple prothrombotic gene polymorphisms: in the beta fibrinogen, methylenetetrahydrofolate reductase and cholesteryl ester transfer protein genes, as well as genotypes in plasminogen activator inhibitor-1 and human platelet antigen type-1. He had normal coronary arteries with catheterinduced spasm and was treated with a calcium antagonist and aspirin.