BACKGROUND: Plasminogen activator inhibitor-1 (PAI-1) has been proposed as a candidate risk factor for restenosis after coronary artery stenting. Transcription, level, and activity of PAI-1 are influenced by the 4G/5G polymorphism in the promoter region of PAI-1 gene. The polymorphism may therefore affect wound-healing processes in injured blood vessels and influence restenosis.

METHODS: In 1850 consecutive patients, angiographic measures of restenosis and the clinical outcome at 30 days and 1 year after stent implantation were evaluated. Angiographic restenosis was defined as > or =50% diameter stenosis determined at follow-up angiography, performed 6 months after stenting. The 4G/5G genotypes were determined with TaqMan technique.

RESULTS: Among the patients, the frequency of the 4G allele was 0.55. Follow-up angiography was done in 84% of the patients. We observed restenosis in 32.5% of 4G/4G carriers, 32.2% of 4G/5G carriers, and 35.7% of 5G/5G carriers (P = .52). The occurrence of a major adverse event (death, myocardial infarction, or target vessel revascularization due to restenosis-induced ischemia) was 5.6% in 4G/4G carriers, 5.3% in 4G/5G carriers, and 4.6% in 5G/5G carriers at 30 days (P = .80), and 24.7% in 4G/4G carriers, 23.0% in 4G/5G carriers, and 26.2% in 5G/5G carriers at 1 year (P = .80).
carriers at 1 year (\(P = .45\)). CONCLUSION: The 4G/5G polymorphism of the PAI-1 gene is not associated with an increased risk of thrombotic and restenotic events after coronary artery stenting.