Plasma Urokinase Antigen and Plasminogen Activator Inhibitor-1 Antigen Levels Predict Angiographic Coronary Restenosis

To the Editor:

We read with great interest the article by Strauss et al1 on urokinase plasminogen activator (uPA) and plasminogen activator inhibitor-1 (PAI-1) levels in patients with stable angina who underwent percutaneous transluminal coronary angioplasty (PTCA). In their study, plasma samples were drawn from the antecubital vein before and serially after PTCA, and plasma uPA antigen levels were significantly higher, whereas PAI-1 antigen levels were significantly lower, in patients with restenosis.

Previously, we investigated changes in hemostasis in the coronary circulation after PTCA. Blood samples were drawn from the coronary sinus immediately before and after, as well as 4 and 24 hours after PTCA. We found that tissue factor levels in the coronary sinus blood increased significantly 4 and 24 hours after PTCA and that PAI-1 and tissue plasminogen activator levels also increased significantly 24 hours after PTCA. However, in the femoral arterial blood, no significant change in the levels of these markers was observed.2 Furthermore, we found a significant positive correlation between tissue factor levels in the coronary sinus blood and the late loss index 6 months after PTCA, whereas no significant correlation was observed between PAI-1 or tissue plasminogen activator levels and the late loss index. Therefore, we speculate that if, in the study by Strauss et al, the blood samples had been drawn from the coronary sinus rather than the peripheral vein, more definite conclusions regarding the relationship between uPA and PAI-1 levels and restenosis could have been obtained.

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