Hypofibrinolysis Linked With Increased VT Risk

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ORLANDO — Hypofibrinolysis is a risk factor for venous thrombosis, particularly in women, younger individuals, and those who also have Factor V Leiden, Dr. Mirjam E. Meltzer reported at the annual meeting of the American Society of Hematology.

In a study of 2,420 patients with a first episode of pulmonary embolism or deep vein thrombosis of the leg, and 2,943 controls, increased clot lysis time (CLT) was associated with increased venous thrombosis risk, said Dr. Meltzer of University Medical Center, Utrecht, the Netherlands.

Lysis of a tissue factor–induced clot by exogenous tissue-type plasminogen activator was assessed by monitoring changes in turbidity during clot formation and subsequent lysis. Quartiles of CLT were established based on values in control subjects.

Each increasing quartile of CLT was shown to be associated with an increase in venous thrombosis risk, she explained.

Individuals with hypofibrinolysis (those in the fourth quartile of CLT), compared with those in the first quartile, had an odds ratio for venous thrombosis of 1.8 after adjusting for age and sex. The risk was slightly higher in women and younger patients.

Women younger than 49 years had an odds ratio for venous thrombosis of 2.5, and those over age 49 years had an odds ratio of 1.7, compared with the 1.8 overall odds ratio. Women had an overall odds ratio of 2.7, compared with 1.6 for men.

Participants were aged 18-70 years, and were from the Multiple Environmental and Genetic Assessment (MEGA) of risk factors for venous thrombosis study, a population-based, case-control study.

Venous thrombosis risk in this analysis was determined for hypofibrinolysis alone, and in combination with Factor V Leiden and prothrombin 20210A mutations. Risk was increased threefold in those with Factor V Leiden alone, and sevenfold in those with both hypofibrinolysis and Factor V Leiden, compared with subjects in the first quartile of CLT, Dr. Meltzer said.

A similar analysis of those with hypofibrinolysis and the prothrombin 20210A mutation showed the mutation did not enhance the risk over the threefold increased risk in those with prothrombin 20210A alone.

The findings confirm those from smaller studies showing a link between hypofibrinolysis and increased venous thrombosis risk, she noted. ■

HDL May Protect Against Venous Thrombosis

ORLANDO — High-density lipoproteins, which are known protectors against arterial atherothrombosis, also appear to protect against recurrent venous thrombosis, Dr. Sabine Eichinger reported at the annual meeting of the American Society of Hematology.

In a prospective study of 772 patients with a first episode of spontaneous venous thromboembolism, the relationship between plasma lipoprotein parameters and recurrence of venous thrombosis was evaluated. Of the 772 patients, 100 (13%) had recurrent VTE during an average follow-up of 4 years.

Compared with patients without recurrence, those with recurrence had significantly lower mean plasma levels of apolipoprotein A-I, a major component of HDL (1.12 vs. 1.23 mg/mL), said Dr. Eichinger of the Medical University of Vienna.

The relative risk of recurrence in this study population was 0.87 for each increase of 0.1 mg/mL in plasma apolipoprotein A-I; for those with apolipoprotein A-I levels above the 67th percentile, compared with those with lower levels, relative risk of recurrence was 0.51.

Further, HDL cholesterol levels and HDL particle concentrations were lower in patients with recurrence, she noted.

Although it was thought that HDL is protective against recurrent venous thrombosis as a result of its multiple antithrombotic and anti-inflammatory actions, this had not been previously shown, she explained.

Measurement of HDL parameters may be useful for predicting venous thrombosis recurrence risk, and drugs that increase HDL might be useful for reducing venous thrombotic events, she concluded.

—Sharon Worcester