

## Up to 40% of Heart Attacks Involve Atypical Symptoms

BY MICHELE G. SULLIVAN  
Mid-Atlantic Bureau

RIVIERA MAYA, MEXICO — To avoid missing an acute myocardial infarction, look beyond the elephant in the emergency department.

"The old 'elephant on my chest' story of the classic ... is the one that we love," Dr. John Marx said at a meeting on medical negligence and risk management.

But up to 40% of patients with acute myocardial infarction come to the ED with atypical presentations, including a normal or nondiagnostic electrocardiogram or with a complete absence of chest pain.

In fact, many patients complain only of anginal equivalents—nonspecific symptoms that may go unrecognized as red flags for a heart attack, said Dr. Marx, chair of emergency medicine at the Carolinas Medical Center and professor of emergency medicine at the University of North Carolina at Chapel Hill.

"Perhaps they may just be short of breath, weak, nauseated, and sweaty, which is very typical [of MI] in those with long-standing diabetes. These are extraordinarily general symptoms and very problematic for us," he said.

Atypical presentations, along with ECG misses, make heady opportunities for plaintiffs' lawyers, Dr. Marx said at the meeting, which was sponsored by Boston University. "Three to five percent of acute

MIs are sent home from the emergency department, and these account for 26% of malpractice losses in emergency medicine. The average award in these cases is about \$981,000."

Anginal equivalents are most common in elderly patients (up to 70% of those over age 85); those with long-standing insulin-dependent diabetes (40% vs. 25% of those without diabetes); women (up to 60% in some series); nonwhite patients; and those with no risk factors for heart attack.

These patients require risk stratification, multiple sets of enzyme studies performed at least 6 hours apart, and continuous ST-T monitoring, Dr. Marx said.

"Never rely on a single set of enzyme studies," he warned. "If you do, you are harming yourself two ways: First, you have established on the chart that you're worried [about an MI], and second, you've failed to exclude that possibility by ordering only one set of tests."

If both sets of enzymes are normal and the continuous ST-T monitoring is negative, you can safely submit that patient to provocative testing, either immediately or, if the patient is very low risk, within 5 days.

Don't overrely on the ECG, Dr. Marx stressed. "A normal or unchanged [ECG] does not rule out a diagnosis of MI or unstable angina. It may be helpful if you can get a look at some previous [ECGs] for comparison." ■

## Hypofibrinolysis Is Linked With Higher Venous Thrombosis Risk

BY SHARON WORCESTER  
Southeast Bureau

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 increased in women and younger patients. ■

For example, 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. And women had an overall odds ratio of 2.7, compared with 1.6 for men.

Study participants were between ages 18 and 70, 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, as well as in combination with Factor V Leiden and prothrombin 20210A mutations. The venous thrombosis 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. ■

## Free Venous Disease Screening Program Is Greatly Expanded

BY TIMOTHY F. KIRN  
Sacramento Bureau

SAN DIEGO — In its second year, the National Screening Program for Venous Disease conducted free clinics in 40 states, and more than half the persons screened were found to be at risk of a venous thromboembolism if put in a conducive situation, Dr. Robert B. McLafferty said at the annual meeting of the American Venous Forum.

"There has been extreme and rapid growth," said Dr. McLafferty, professor of vascular surgery at Southern Illinois University, Springfield. In the second year, 149

centers conducted free screening clinics versus 17 centers in the first year.

As with the first year's screening, data from the 56 clinics that have reported their results so far showed a high rate of risk and disease among those screened, with 57% deemed to be at high or very high risk of a venous thromboembolism if placed in a risky situation, defined as a surgical procedure, major injury or hospitalization, malignancy, or prolonged immobility.

This is not surprising given that the mean age of participants was 60 years, 40% were overweight, and the second most common reason participants came to the clinics was varicose veins (30%), Dr. McLafferty said.

In all, 17% had a quality of life that was very limited by venous symptoms, or had probable disease. Participants were mostly white and female (both about 80%).



Differences from the first year were that a slightly higher percentage of participants were considered CEAP (clinical, etiologic, anatomic, pathophysiologic) class 0 (29% versus 20%), and fewer were overweight (40% had a body mass index over 25, versus 67%), Dr. McLafferty said. Otherwise, there were few differences, "even though we have tripled the number of people screened," he added. One in 20 participants had segments of obstruction in the

**Of those screened, 57% were at high or very high risk of a venous thromboembolism if placed in a risky situation.**

DR. MCLAFFERTY

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Participants filled out a demographic questionnaire and a quality of life form. They had a venous thromboembolism risk assessment using a standardized tool, and an abbreviated ultrasound examination that looked at the common femoral vein, the saphenofemoral junction, and the popliteal vein above the knee. Lastly, the participants were examined by trained professionals or physicians to classify their lower extremities using the CEAP classification system, and were given an exit interview detailing the findings of their exams.

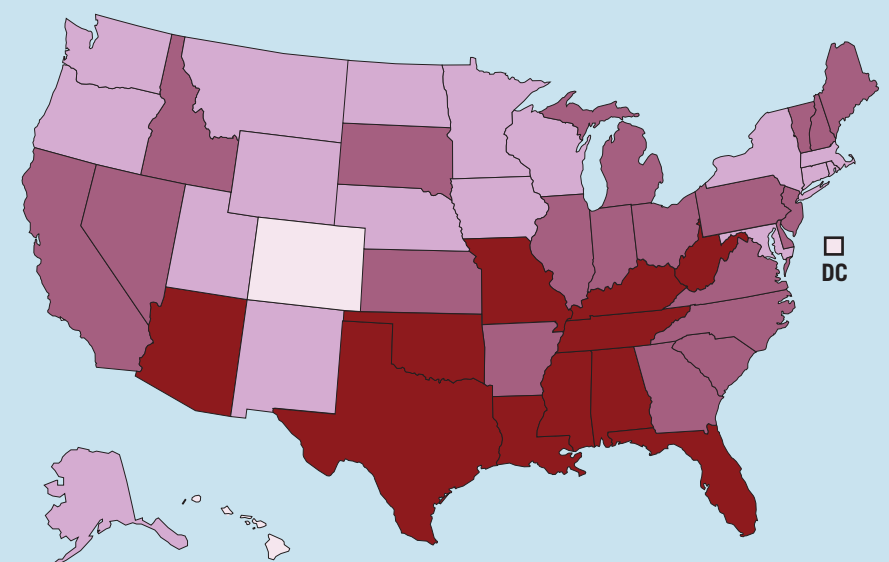
The screening program is the brainchild of the American Venous Forum, with assistance from the American Vascular Association.

The two annual screening programs have taken place during a week in early November. ■

### DATA WATCH

#### Heart Disease More Prevalent in the South

4.0%-4.9% 5.0%-5.9% 6.0%-6.9% >6.9%



Note: Based on adults who reported a history of MI or coronary heart disease on the 2005 Behavioral Risk Factor Surveillance System.  
Source: Centers for Disease Control and Prevention