

# Surveillance Program Needed to Track VTE

## VITALS

**Major Finding:** Available information on the burden of VTE has been based on two epidemiologic studies and on limited data from hospital discharge surveys or analysis of provider claims databases.

**Data Source:** A workshop and a review of the literature by a national work group convened by the Centers for Disease Control and Prevention and the American Society of Hematology.

**Disclosures:** Dr. Raskob disclosed that he has received consulting fees from Bayer, Bristol-Myers Squibb, Boehringer Ingelheim, Pfizer, GlaxoSmithKline, Johnson & Johnson, Daiichi Sankyo, Sanofi-Aventis, and Takeda.

BY MICHELE G. SULLIVAN

There is no shortage of clinical guidelines that describe the risk factors for deep vein thrombosis and pulmonary embolism, and that recommend how to effectively treat and prevent them. What is lacking, a national work group has concluded, is any way to track whether those guidelines are being implemented.

Also missing is information about how such guidelines might affect the incidence of venous thromboembolism (VTE). These questions can be answered only through collection of data by a national surveillance program, according to Gary E. Raskob, Ph.D., and his colleagues.

The work group, which was convened by the Centers for Disease Control and Prevention and the American Society of Hematology, consisted of physicians, epidemiologists, and health

care policy experts. Following a 1-day workshop, the group summarized the literature on the clinical impact of deep vein thrombosis (DVT) and pulmonary embolism (PE) in several areas of medicine, wrote Dr. Raskob, of the University of Oklahoma Health Sciences Center, Oklahoma City, and his coauthors (*Am. J. Prev. Med.* 2010;38:S502-9).

The available information on the clinical and econom-

ic burden of VTE "has been based on two population-based epidemiologic studies and on limited data from hospital discharge surveys or analysis of healthcare provider claims databases," the work group wrote.

Each year, about 900,000 cases of VTE occur in the United States. The risk of VTE increases with age, and is somewhat higher for men than for women (114 vs. 105/100,000).

There are few data on whether the incidence of DVT varies by ethnic group, and the available studies vary widely in methodology and conclusions. A California patient discharge review that spanned 1991-1994 found an annual incidence among whites of 230/1 million population, compared with 293/1 million for blacks, 139/1 million for Hispanics, and 60/1 million for Asian/Pacific Islanders.

Most VTEs are associated with a recent hospitalization; therefore, the work

group said, hospitalization is an opportune time to institute prevention measures and to educate patients on the risks of blood clots.

Among its recommendations, the work group suggested that the CDC:

- ▶ Establish a demographic picture of DVT and PE in the United States.
- ▶ Determine whether there are incidence differences among minorities, compared with white populations.
- ▶ Further define risk factors among various patient groups (pregnant patients, surgical patients, children, residents of long-term care facilities, and patients with a family history of VTE).

▶ Evaluate whether evidence-based preventive measures are being appropriately applied.

▶ Detect changes in the incidence of DVT and PE and relate these changes to any increase in the use of preventive measures.

The group also recommended that the CDC initiate a two-pronged national public awareness campaign, focusing on increasing overall understanding of the disorder and its risk factors, and encouraging patients who are about to undergo surgery or hospitalization to discuss the subject with their physicians. ■

## VTE Deserves More Attention

### MY TAKE

It's time for physicians and the public to take an in-depth look at this issue. Although at least four clinical treatment and prevention guidelines are available, they are not always employed in practice.

All of us know that every patient in the hospital should be receiving VTE prophylaxis, for example. Unfortunately, not every patient is getting it.

Several factors probably contribute to the problem. In some cases, we simply forget about VTE prevention. When a physician is dealing with acute problems in a very sick patient, VTE prevention might not be the first thing on that doctor's mind. Also, there are physi-

cians who simply are not aware of the prevention guidelines, and so they don't implement them.

Finally, physicians who see discharged patients in the community—where 75% of VTEs occur—might not appreciate the importance of continuing prophylaxis after discharge. Physicians who don't provide care for patients in the hospital can go for years without seeing a clot, so they may underestimate the magnitude of the problem.

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# Compression Ultrasound May Safely Predict Low VTE Risk

BY MARY ANN MOON

A single negative whole-leg compression ultrasound may safely identify which patients with suspected deep vein thrombosis can forego anticoagulation therapy because they are at low risk for venous thromboembolism, according to a meta-analysis.

But the authors of an editorial cautioned against drawing firm clinical conclusions from the meta-analysis.

For patients assessed for possible DVT, practice guidelines currently recommend serial compression ultrasound imaging of the proximal veins after an initial negative result. Such imaging may minimize the risk that distal DVT is present and could propagate into the proximal veins, putting the patient at risk for VTE. However, only 1%-2% of these repeat studies detect thrombus propagation, making many of the studies ultimately unnecessary.

"Because many distal throm-

bi appear to resolve without use of anticoagulant therapy, it may be argued that detection and treatment of distal DVT is unnecessary because it may place patients at undue risk for anticoagulant-related complications," wrote Dr. Stacy A. Johnson of the University of Utah, Salt Lake City, and associates (*JAMA* 2010;303:438-45).

Whole-leg compression ultrasound (CUS) has been proposed as an alternative strategy to improve initial detection of distal DVT and obviate repeat compression ultrasound. But many clinicians are reluctant to rely on a single whole-leg CUS for that purpose, citing concerns about the technical feasibility and safety of such an approach, the investigators noted.

The researchers performed a meta-analysis "to address the safety of withholding anticoagulation after a negative whole-

leg CUS by providing estimates of the incidence of symptomatic VTE during the 3 months after a single negative result." They reviewed 156 studies and limited the meta-analysis to 6 prospec-

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tive cohort studies and 1 randomized clinical trial. Outcomes for 4,731 patients were included.

The combined end point of confirmed VTE and mortality possibly related to VTE developed in 34 (0.7%) of the patients. There were 11 cases of distal VTE, 7 cases of proximal DVT, and 7 cases of nonfatal pulmonary embolism.

Nine deaths may have been related to VTE, but no necropsies were done to establish the

causes of death. All of the deaths occurred in acutely ill hospitalized patients or patients with advanced cancer.

"Overall, the risk for symptomatic VTE was low, with a pooled VTE event rate of 0.57%," the researchers said. "To our knowledge, these results represent the first reported pooled risk assessment of VTE following a negative lower extremity whole-leg CUS result."

However, "summary statements from meta-analyses should not be used to guide patient care," cautioned Robert A. McNutt, M.D., Ph.D., of Rush University Medical Center, Chicago, and Dr. Edward H. Livingston of the University of Texas Southwestern Medical Center, Dallas, in their editorial. "Such conclusions are not helpful when the clinical studies are combined and averaged in a way that reduces the complex world of medical care to overly simple and consequently not clinically useful statistical summaries," they said (*JAMA* 2010;303:454-5).

"Generalizing the findings related to a diagnostic test or treatment regimen beyond the specific context from which a study was performed is fraught with danger," Dr. McNutt and Dr. Livingston noted. "For instance, based on the meta-analysis by Johnson et al., clinicians may infer that not initiating anticoagulation treatment after a negative CUS result in some surgical or ambulatory patients at low risk of having VTE may be appropriate; however, that inference may not be true for hospitalized patients or those with cancer."

"Greater detail about individual patient scenarios is necessary to facilitate better application of the study results." ■

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