Leg Imaging May Predict Low Risk for VTE

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 accompanying 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 studies ultimately unnecessary.

In addition, "because many distal thrombi 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 narrowed the meta-analysis to 6 prospective cohort studies and 1 randomized clinical trial. Outcomes from 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 PE.

There were nine deaths possibly related to VTE, but no necropsies were done to establish the causes of death. None of the deaths was attributed to VTE, and all 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%," Dr. Johnson and colleagues 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 Dr. Robert A. McNutt, Ph.D., of Rush University Medical Center, Chicago, and Dr. Edward H. Livingston of the University of Texas Southwestern Medical Center, Dallas, in an editorial comment accompanying the report.

"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 Dr. Johnson and associates, 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.

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