

# Correspondence

*We will try to publish authors' responses in the same edition with readers' comments. Time constraints may prevent this in some cases. The problem is compounded in the case of a quarterly journal where continuity of comment and redress is difficult to achieve. When the redress appears 3 months after the comment, 6 months will have passed since the original article was published. Therefore, we would suggest to our readers that their correspondence about published papers be submitted as soon as possible after the article appears.*

## Thromboembolic Disorders

*To the Editor:* As a Diplomate of the American Board of Family Practice who has made a transition to diagnostic radiology, I wish to add two important points to the otherwise excellent review of thromboembolic disorders by Dr. Brunader (April–June 1989).<sup>1</sup>

The first is the advent of lower-extremity compression ultrasound (synonyms: real-time B-mode ultrasonography, duplex B-mode ultrasonography) for the diagnosis of deep-venous thrombosis.<sup>2-5</sup> With this technique, the femoral and popliteal veins are visualized under real-time ultrasound scanning. The absence (or presence) of intraluminal thrombus is established by noting complete obliteration (or lack thereof) of the vein lumen by direct compression with the ultrasound transducer. Occasionally, echogenic thrombus can be visualized within the lumen; however, fresh clot can be as sonolucent as flowing blood, and, therefore, lack of compressibility is the reliable positive finding. This noninvasive technique, which requires a minimum of time to perform, has been shown to be comparable in sensitivity and specificity with contrast venography in the popliteal and femoral veins.<sup>6,7</sup> Reliability falls off in the calf veins, but, as Dr. Brunader points out, calf deep-venous thrombi rarely become embolic. Patients for whom there is a high degree of clinical suspicion can easily undergo serial scanning to evaluate for clot propagation into the popliteal and femoral veins. In addition, visualized augmentation of popliteal vein caliber with manual squeezing of the calf and of femoral vein caliber with the Valsalva maneuver indirectly assess for occlusive disease in the calf and iliac veins, respectively. The problem of differentiating acute from chronic disease persists, but combined with the assessment of history and clinical status, an informed approach can be established.

Second, radionuclide venography can be combined with perfusion lung scanning using the same dose of technetium 99m macro-aggregated albumin by dividing the dose and injecting half in a dorsal vein of each foot. Subsequent imaging over the lower extremities and pelvis is accurate for the diagnosis of occlusive disease in the popliteal, femoral, or iliac veins as manifested by failure to visualize tracer proximal to the occlusive site.<sup>8,9</sup> Proceeding to imaging over the lungs provides the perfusion lung scan. This technique is useful in patients suspected of

pulmonary embolism but without a clinically evident source, in whom lower extremity deep-venous thrombosis is, therefore, most likely.

Especially in light of current advances in thrombolytic therapy, the accuracy of both techniques, their noninvasiveness, ease of performance, and relative minimal expense make them important additions to the diagnostic approach to deep-venous thrombosis.

Elliot M. Sacks, M.D.  
The University of Arizona  
Tucson, AZ

## References

1. Brunader RE. Diagnosis and evaluation of thromboembolic disorders. *J Am Bd Fam Pract* 1989; 2:106-18.
2. Cronan JJ, Dorfman GS, Scola FH, Schepps B, Alexander J. Deep venous thrombosis: US assessment using vein compression. *Radiology* 1987; 162:191-4.
3. Cronan JJ, Dorfman GS, Grusmark J. Lower-extremity deep venous thrombosis: further experience with and refinements of US assessment. *Radiology* 1988; 168:101-7.
4. Raghavendra BN, Horii SC, Hilton S, Subramanyam BR, Rosen RJ, Lam S. Deep venous thrombosis: detection by probe compression of veins. *J Ultrasound Med* 1986; 5:89-95.
5. Lensing AW, Prandoni P, Brandjes D, et al. Detection of deep-vein thrombosis by real-time B-mode ultrasonography. *N Engl J Med* 1989; 320:342-5.
6. Langsfeld M, Hershey FB, Thorpe L, et al. Duplex B-mode imaging for the diagnosis of deep venous thrombosis. *Arch Surg* 1987; 122:587-91.
7. Aitken AG, Godden DJ. Real-time ultrasound diagnosis of deep vein thrombosis: comparison with venography. *Clin Radiol* 1987; 38:309-13.
8. Kramer FL, Teitelbaum G, Merli GJ. Panvenography and pulmonary angiography in the diagnosis of deep venous thrombosis. *Radiol Clin North Am* 1986; 24:397-418.
9. de Hodge P. Detection and location of lower extremity deep venous thrombosis with radionuclide venography. *Diagn Imaging* 1981; 50:191-6.

The above letter was referred to the author of the article in question, who offers the following reply.

*To the Editor:* I very much appreciate Dr. Sacks's interesting and appropriate contributions to this article.

Richard E.A. Brunader, M.D.  
Silas B. Hays Army Community Hospital  
Fort Ord, CA

## Refereed Journals

*To the Editor:* Thank you for explaining and endorsing the referee system of manuscript review (April–June 1989).<sup>1</sup> While not perfect, it is the best system we have for maintaining the scientific basis of medicine. I disagree, however, with the statement that most refereed medical journals use blinded reviewers. Cleary and Alexander recently surveyed the editors of 114 medicine-related English language journals to determine whether the ref-