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INVITED COMMENTARY

Stuart I. Myers, MD, *Chattanooga, Tenn*

The authors present an interesting retrospective series on the management of iatrogenic carotid and subclavian artery trauma after attempted central venous catheterization at their institutions. This is an important and timely topic because we all strive to limit complications from the various interventions we are called on to perform. In brief, the authors compared results from the approach of pulling the catheter and using pressure, the pull-and-push technique, with the approach of using surgical or endovascular interventions to limit morbidity and mortality. Although the numbers of patients reported are relatively small, the data strongly suggest that the pull-and-push technique has a much higher morbidity than the surgical or endovascular approach.

What are the controversial points of this article? The first is that the incidence of this problem is very low; therefore, it is difficult to amass sufficient patients to establish statistically significant numbers. Despite this, the differences between the two groups are striking and cannot be ignored.

The second controversial point is that the use of the pull-and-push technique requires less time and resources than open surgical or endovascular techniques. Again, the major complications that were found by the authors more than justify the use of surgical and endovascular techniques. One has to be honest and decide if you were the patient, what approach would you prefer? Are you willing to risk a stroke or difficulty in stopping hemorrhage?

The third controversial point is that the article does not dwell on the real issue, and that is prevention.

In my own practice, I use ultrasound guidance to place needles for central venous access, access of arteriovenous fistulas and grafts, and to perform diagnostic and interventional approaches to venous and arterial disease. Ultrasound-guided needle placement is quite easy, allows direct placement of the needle in the desired vessel, and requires very little training and experience. Logically, one would think that the use of ultrasound guidance would be particularly helpful to physicians who are not comfortable with percutaneous needle or catheter placement.

In summary, one should approach the percutaneous placement of needles or catheters into the central veins with the use of ultrasound guidance. Second, a physician who suspects inadvertent placement of the needle or catheter into the carotid or subclavian arteries should obtain immediate vascular surgical consultation to decide the next series of steps. The algorithm described by the authors is logical and simple and should help guide the reader in the care of these patients.