

LETTERS TO THE EDITOR

Facilitating Radial Conversion

I was trained with femoral catheterization techniques and found catheterization from the right radial artery to be a frustrating experience. Specialized catheters were of no avail in reducing excessive fluoroscopic time or providing the guide catheter support that I was accustomed to from the femoral approach. I nearly abandoned the radial technique. I then chose to cannulate the left radial artery from the left side of the patient with the hole in the drape typically reserved for left femoral access. As a right-handed operator, I position myself between the patient and his abducted left arm. After obtaining radial access, we remove the left arm from the arm board and slide the left wrist and drape together, placing the pronated left arm comfortably over the left femoral region. I return to the right side of the patient and proceed with cardiac catheterization from the left radial artery as I would from the left femoral artery, with 1 minor difference: I begin with a Judkin's curve that is a one-half-size less than I would typically use from the femoral approach. I was surprised to learn from the excellent summary of current transradial practice by Bertrand et al. (1) that "the large majority (89.4%) of operators use the right radial artery as the initial side." Perhaps, this simple technique might lead others comfortable with the femoral approach to consider a much less demanding transition to using the radial artery for cardiac catheterization and intervention. Potential advantages of the radial technique include comfort, safety, and early discharge, including outpatient angioplasty for uncomplicated procedures.

*Steven Feld, MD

*Heart and Vascular Diagnostic Clinic

1111 West Frank

Suite 202

Lufkin, Texas 75904

E-mail: jfeld@consolidated.net

doi:10.1016/j.jcin.2011.01.007

REFERENCE

1. Bertrand OF, Rao SV, Pancholy S, et al. Transradial approach for coronary angiography and interventions: results of the first international transradial practice survey. *J Am Coll Cardiol Intv* 2010;3:1022–31.

Reply

We thank Dr. Feld for his interest in our paper (1). His points are very timely and extremely pertinent. In summary, he was surprised by the very large predominance (~90%) of right radial artery, compared with left radial artery, use as the default access site. We looked back into our data to see if these patterns were consistent across different subgroups. For female operators, the preferred side for transradial approach (TRA) was the right in 96% and the left in 4%, whereas for male operators, the right side was preferred in

89% and the left side in 11%. The right side was preferred by 80% of young operators (≤ 30 years old), 91% of operators >30 to ≤ 40 years old, 89% of operators >40 to ≤ 60 years old, and still preferred by 89% of operators older than 60 years. For operators performing $<5\%$ of their diagnostic cases by TRA, right side was preferred by 83%, whereas it was 91% for those performing $>90\%$ of their diagnostic cases by TRA. Furthermore, for operators performing $\geq 50\%$ of percutaneous coronary intervention (PCI) by TRA, the right side was preferred in 92% of cases compared with 85% of cases for operators performing $<50\%$ of PCI by TRA. Interestingly, the right side was preferred by only 78% of operators performing <100 PCI per year, compared with more than 90% for operators performing >100 PCI per year.

As we reported, in most cases, the right radial artery is used, although the left radial artery is also appropriate. However, as operators are used to working from the patient's right side, it is likely that many of them avoid the left radial approach because of the uncomfortable position, leaning over the patient to reach the left wrist to manipulate catheters. In many centers, left radial access is reserved for patients with previous coronary artery bypass surgery to facilitate imaging of the left internal mammary artery. In some recent reports, investigators have compared left and right radial artery approaches with little differences between the 2 approaches, at least in lean patients (2,3). In the TALENT (Transradial Approach [LEft vs Right] aNd Procedural Times During Percutaneous Coronary Procedures) study, Sciahbasi et al. (2) reported that the left radial artery was an appealing vascular access alternative, especially for physicians learning the technique. Several institutions now routinely teach fellows the radial technique using left radial side as primary access. In addition, subclavian tortuosity, an important predictor of transradial access failure, is less common with left transradial catheterization procedures. This can be useful in elderly patients, women, or patients with short stature.

If there is one trick to be remembered from the right side, it is to have the patient take a deep breath as the catheter approaches the innominate-ascending aorta junction as this elongates the ascending aorta, thus facilitating catheter entry into the ascending aorta. Any time there is difficulty cannulating selectively the coronary arteries, this simple maneuver may help. It may also help if you need to deeply intubate with a guiding catheter seeking more support.

In fact, we have found that "all roads lead to Rome" and in contrast to the femoral approach where position and catheters use are rather monolithic, the transradial approach offers much more versatility. At the end, you should use the side and the catheters that you are the most comfortable with. Ultimately, benefits for the patients, as described by Dr. Feld, will depend little from operators' position or choice of catheter.

*Olivier F. Bertrand, MD, PhD

Sunil V. Rao, MD

Tift Mann, MD