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Eff Clin Pract. 2001;4:221-222.

Increases in Peripheral Interventional Procedures by Cardiologists—Are Patients or Providers Being Served?

Percutaneous peripheral vascular interventions have increased dramatically in recent years, from 90,000 in 1994 to more than 200,000 in 1997, and endovascular techniques may soon replace up to 50% of traditional vascular operations¹. In this issue of **e****c****p**, Axelrod and coworkers² report on variations in peripheral angioplasty practice across geographic areas and the role of the specialty of physicians performing them. The authors report two major findings: a 14-fold variation in peripheral angioplasty rate across hospital referral regions and a significantly higher rate in the regions where cardiologists performed 50% or more of the procedures. Let us consider each in turn.

The 14-fold variation in peripheral angioplasty rate across hospital referral regions raises an important question about the appropriateness of these procedures. However, to understand the appropriateness of peripheral vascular interventions, it is imperative to study and understand patient outcomes. Axelrod and colleagues² analyzed a claims database, and all that we can infer is that utilization rates differed dramatically in different regions of the United States. This may represent previous underutilization in areas where access to interventional procedures was limited, an excess of procedures in some areas, or both. What is very clear is that a change has occurred and that it is important for us to understand why this has happened, the impact on patient's quality of life, and the nation's resource utilization.

The role cardiologists play in higher utilization rates is thought provoking. The mean angioplasty rate in hospital referral regions where cardiologists performed more than 50% of the procedures was almost double that in regions in which they performed none (21.9 vs. 12.1 procedures per 10,000 beneficiaries; $P < 0.001$). The obvious question is, Does this represent good care or excessive care?

This paper is available at ecp.acponline.org.

From a cardiologists' point of view, one could imagine that peripheral interventional procedures are being done to alleviate comorbid conditions, including claudication; preserve renal function; and better manage blood pressure. Perhaps more important, the long-term management of these patients requires a disease management approach after the procedure. It is possible that cardiologists are actually improving patient outcome by offering both procedures (which improve quality of life) and additional medical therapies, such as aspirin, β -blockers, statins, and angiotensin-converting enzyme inhibitors (which may affect long-term mortality in addition to the procedure's benefit on morbidity). An understanding of the natural history of peripheral vascular disease, criteria for selecting patients and lesions, and treatment alternatives is needed to perform these procedures safely and successfully. There may be advantages for patients when the interventionist performing the procedure is also the clinician responsible for overall care and when clinical judgment is enhanced by a long-term patient-physician relationship.³ In view of the increased incidence of coronary artery disease in patients with atherosclerotic peripheral vascular disease, the participation of cardiologists in these procedures is reasonable because of their ability to offer comprehensive care that attacks not just an atherosclerotic lesion in a vessel but atherosclerosis in general.

But the investigation by Axelrod and colleagues also suggests that procedure use by cardiologists is excessive—particularly with “pull back” abdominal aortic angiograms that are done after coronary angiography and lead to renal artery angioplasty. The fact that 17% of the renal artery procedures were performed on the same day raises a significant question about this practice. On the other hand, the higher rate of peripheral angioplasty within 30 days of cardiac catheterization may not necessarily suggest a real difference in the pattern of care provided by cardiologists. Coronary artery disease and

peripheral vascular disease frequently coexist, and both procedures performed during the same hospitalization may very well be related to patient preference and the ability of cardiologists to offer both procedures within a reasonable time frame.

Studies of utilization that show dramatic practice variation argue for the development of registries documenting the indication, periprocedural outcome, and long-term outcome in patients undergoing peripheral interventions. We need clearer definitions of appropriateness of peripheral interventions and large regional (and perhaps national) registries, which will allow an understanding of both the periprocedural and long-term outcome as cardiovascular specialists attain a larger role in the management of peripheral vascular disease. The right balance of the number of peripheral angioplasties probably lies someplace between the current position of radiologists and the position of cardiologists. Both groups need to be challenged to work together to define the appropriate amount of technology for patients within the context of a disease that requires secondary prevention in addition to episodic interventional treatment.

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