Commentaries

The Vascular War of 1988: The Enemy Is Met

NUMEROUS skirmishes, battles, and wars relating to territorial rights of various specialties involved in treating patients with vascular disease have been waged over the years. These have involved issues of patient welfare, access, availability and cost of resources, economic interests of physicians and hospitals, and quality control. The current "vascular war of 1988" began smoldering among vascular surgeons and radiologists with the widespread introduction of transluminal balloon angioplasty for the treatment of peripheral vascular disease in the 1970s. It has burst into flames in some parts of the nation with the development and introduction of new, high-tech transluminal devices for the treatment of occlusive vascular lesions and now involves not only vascular surgeons and radiologists but also cardiologists. Although most of the new devices are not fully developed, tested, or proven, explosive media exposure of preliminary tests and the Star Wars magic of the word "laser" have led to high levels of expectations on the part of the public, patients, physicians, hospitals, and industry. Food and Drug Administration approval of a laser-heated guidewire to assist in standard balloon angioplasty has demonstrated the market potential and appeal of "laser treatments." This has provided an incentive for many physicians with little knowledge of peripheral vascular disease to embark on treatment programs. Aggressive marketing practices and two-day teaching programs to demonstrate ease of use and profitability have spurred enormous interest. As a result, many lesions that never have required treatment are now being aggressively sought out and treated.

Many radiologists and cardiologists perceive the beginning of a golden period of opportunity and growth. Mildly symptomatic patients who heretofore were treated conservatively with programs of smoking cessation and walking exercise are now undergoing invasive transluminal angioplasty procedures. The long-term clinical implications of this approach are

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unknown, and no evidence exists to support the rationale that early treatment of asymptomatic superficial femoral lesions, which are technically easy to treat and economically rewarding, is of benefit to the patient. Some catheter interventionists believe that vascular surgeons are complicating the issue because vascular surgeons consider themselves to be experts in the care of patients with peripheral vascular disease and apply strict clinical criteria for the selection of patients for intervention and treatment rather than the mere presence of a treatable lesion. Resolution of these issues must be based on considerations of patient welfare rather than economic interest.

For many years vascular surgeons have been recognized as the primary physicians involved with the diagnosis and treatment of peripheral vascular disease. They pioneered, developed, and validated noninvasive diagnostic techniques to objectively evaluate peripheral vascular disease. They characterized the natural history of peripheral atherosclerosis, clarified the significance of varying symptom complexes, developed methods of operative revascularization, and objectively documented the short- and long-term results of various operative and nonoperative treatment modalities, including percutaneous balloon angioplasty. They are involved with the entire disease spectrum, from preclinical asymptomatic stages to end-stage disease requiring amputation, and recognize the generally benign nature of mild claudication. They are thus in a position to evaluate new treatment modalities in light of the natural history of the disease and to compare the results with those of established operative techniques. They can deal with complications produced by the new devices and can objectively document long-term efficacy. They must work together with interventionists in evaluating new technology, developing criteria for patient selection, and documenting short- and long-term results, or risk losing their primary role in the management of patients with peripheral vascular disease.

Radiologists have been instrumental in the growth and development of successful treatment modalities for peripheral vascular disease by providing precise and complete diagnostic angiography, without which progress in treatment options would not have been possible. The pioneering concepts of transluminal angioplasty developed by radiologists have revolutionized our thinking about vascular disease. A close cooperative relationship between angiographers and vascular surgeons has existed for many years and has been important in planning and providing the highest-quality patient care. New transluminal interventional treatment devices have, however, strained this relationship in some hospitals and caused some radiologists to seek an alliance with internists or cardiologists to evaluate and follow up patients. Marketing of and publicity for new devices have resulted in self-referral of patients to radiologists or direct referral from primary-care physicians to radiologists. Since radiologists are not expert in evaluating patient symptoms, cannot hospitalize patients, and have no facility in providing follow-up care, they require a vascular specialist for patient management.

Historically, cardiologists have had little interest in peripheral occlusive disease. However, cardiologists are skilled in angiography and transluminal balloon angioplasty of the coronary arteries, and many have been instrumental in developing and testing new transluminal intervention devices. Peripheral arteries are viewed as a testing ground for developing skills and evaluating new devices before they are used in the coronary arteries. Thus, there are incentives to find and treat lesions in peripheral arteries but little background for understanding the natural history, clinical indications, or long-term consequences. As cardiologists become more knowledgeable in peripheral vascular disease, they will come into direct competition with the interventional radiologist, since both have similar equipment, facilities, and capabilities. However, the cardiologist is at a competitive advantage, since he provides medical management and follow-up care. This is reminiscent of a previous vascular war fought over coronary angiography.

At Stanford, these conflicts have apparently been resolved for the moment by a weekly consensus conference and legislation that the radiologist is responsible for diagnostic angiography and in "control" of angioplasty. Cardiologists are also participants, with great interest in the newer angioplasty techniques and a desire to learn more about peripheral vascular disease. The role of the vascular surgeon in this scenario is unclear. While this solution may have resulted in a truce at Stanford, the war may not be over, and many troubling questions remain. How has the Stanford approach addressed the issues of patient selection and quality control? How have they evaluated efficacy of their procedures, and how is objective long-term follow-up carried out? Who assumes the overall responsibility for the patients' welfare and long-term care, particularly those patients who are placed under the care of the interventional radiologist for angioplasty? While "one-stop shopping" may be effective for a single clinical decision and an effective conference, research, and teaching tool, the natural history of peripheral occlusive disease is one of progression, recurrences, medical management, and strategies to avoid amputation. This requires multiple repeated stops along the way, which can be accomplished only by a knowledgeable clinician. Will the cardiologists continue to permit the radiologists to control peripheral angiography and angioplasty, or will they eventually return to their own turf with their patients?

Clearly, there is a need for increased attention and expertise in the area of peripheral vascular disease. Interdisciplinary conferences and discussions of the merits of individual cases with careful consideration of indications, treatment alternatives, and objectives are most important. Indeed, such cooperative and productive arrangements exist in many medical centers. However, the overall management of patients must remain with physicians with long-term interests in peripheral vascular disease and a commitment to patient care and not with physicians with new technology and devices but without proper clinical perspective. Indications and risk/benefit analyses need to be clarified and outcome monitoring needs to be provided. While highly skilled interventionists should be in control of the procedure itself, second opinions on indications should be encouraged and objective long-term follow-up ensured.

Vascular surgeons can provide such objective external evaluations for radiologists through their traditional existing relationships. The establishment of a new specialty of "angiography" controlled by cardiologists and focused on transluminal interventional devices will likely result in a diminished role for the radiologist in vascular intervention. Thus, in territorial wars we should heed the immortal words of Pogo: "We have met the enemy and he is us."

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