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Two Decades of Progress in Vascular Medicine

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Abstract

Twenty years has passed since our first call for a new specialty in Vascular Medicine(1). This proposal was motivated by novel insights into vascular disease, advances in diagnostics and therapies directed toward the vasculature, and a growing population of patients with vascular disease. Now, with two decades of perspective, we reaffirm the call for Vascular Medicine, highlight the field's early successes, and provide our vision for the future of the specialty.

In the past twenty years, transformative discoveries and technical developments in the laboratory and clinic have provided for a 'vascular renaissance'. A new breed of internist has emerged with expertise in all facets of vascular diseases- including arterial, lymphatic, venous, and microvascular diseases as well as the associated disorders of hypertension, dyslipidemia, insulin resistance, hypercoagulopathy, tobacco addiction, and thrombotic disorders. These specialists use novel biomarkers, high resolution imaging technology, and endovascular techniques to diagnose and treat vascular disorders.

The education of vascular internists has now been formalized with the development of training guidelines, which have been adopted by the major cardiology and vascular medicine societies(2). Indeed, the new training guidelines of the American College of Cardiology (ACC) now requires all trainees to have some exposure to vascular medicine, and provides recommendations for advanced instruction for those who wish to pursue subspecialization in vascular medicine. The concept of the academic vascular internist has been promoted by the National Heart, Lung and Blood Institute with the Vascular Academic Awards, and the creation of the translational Vascular Medicine K12 training programs.

Moreover, formal certification of expertise in general or endovascular medicine was established by the American Board of Vascular Medicine in 2005(3). Since that time, over 875 physicians have been certified in the specialty. Board review courses and educational materials have been developed by the Society for Vascular Medicine (SVM). The SVM was founded 20 years ago by a small band of physicians (Figure 1). Now composed of over 600 members, the SVM has promoted the field by establishing annual scientific sessions, the journal *Vascular Medicine*, and clinical practice guidelines (4) with the American Heart Association, the Society for Vascular Surgery, the ACC, and other kindred societies.

To improve patient education and to advocate for peripheral vascular diseases, the Vascular Disease Foundation was organized in 1998. In their national education campaigns, the

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Vascular Disease Foundation and its subsidiaries, have partnered with over 70 professional, governmental and corporate entities to produce patient and professional literature. These efforts have been admirable, but need to be intensified as patient awareness of peripheral vascular diseases remains poor(5).

Peripheral arterial disease affects over 5 million people in this country(6), but most are not recognized by their physicians(7). Accordingly these individuals are not receiving therapies known to save life and limb. In the PARTNERS screening study conducted in primary care centers across the country, only 60% of individuals with peripheral arterial disease were on a statin, and only 50% on an anti-platelet agent. Current guidelines recommend that these individuals should be treated with both medications. Even when properly diagnosed, these patients tend not to receive intensive medical therapy(4, 7). For example, patients with peripheral arterial disease in the REACH registry achieved their target blood pressure nearly 20% less commonly than a comparable group of coronary disease patients(8). Similarly, hospitalized subjects with peripheral arterial disease are discharged on a statin at a rate that is only a quarter that of patients admitted for a myocardial infarction(9). This is despite the fact that having peripheral arterial disease increases one's relative risk of myocardial infarction five-fold and is now considered at least as strong of a risk factor as established coronary disease(10–12).

A dedicated cohort of specialists is needed to enhance patient care. Just as the unstable angina patient experiences superior care when managed by a cardiologist rather than an internist(13), it would be anticipated that the same benefit would be afforded by specialized care for the patient with peripheral vascular diseases. Furthermore, we need such specialists to advance the field. For example, the academic vascular internist will gain new insights into the mechanisms of vascular disease; will translate these developments into clinical practice, eg. stem cell therapy for vascular regeneration(14); will develop novel diagnostic biomarkers based on genomic and proteomic advances(15); will champion new imaging and endovascular approaches and collaborate with surgeons in hybrid angiography-operating suites. Whereas we welcome general internists to become conversant with vascular medicine, it is necessary that specialists in the field with a deep fund of knowledge pioneer these new therapies, diagnostics, and clinical practice guidelines.

Many professional societies have signaled their support for medical counterparts who would complement the surgical care of the vascular patient(16). The most obvious way forward would be to obtain recognition of Vascular Medicine as a new subspecialty of Internal Medicine. Indeed, a petition for recognition as a medical subspecialty is under review by the American Board of Medical Subspecialties. Management of vascular diseases by medical specialists need not be more expensive, and may even reduce costs. We confront a public health need (an increasing prevalence of vascular disease) which is best met by vascular specialists who will provide comprehensive management of disease; who will lead public and professional educational programs; and who will pioneer bench-to-bedside medical advances; with the goal of improving patient care and reducing the financial and human cost of vascular disease.

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Figure.

Founding of the Society for Vascular Medicine, March 19, 1989, Anaheim CA. From left to right: Alan T. Hirsch, Marvin Sachs, Philip J. Osmundson, Jay Coffman, Jess Young, Mark A. Creager, Michael A. Weber, Victor J. Dzau, John A. Spittel, John Joyce, John P. Cooke, Sheldon Sheps, and James R. Sowers.