Practice patterns of endovenous ablation therapy for the treatment of venous reflux disease

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ABSTRACT

Objective: The purpose of this study was to assess practice patterns of endovenous ablation therapy for the treatment of venous reflux disease among the vein specialist members of the American Venous Forum (AVF).

Methods: An online survey was conducted of AVF members designed to identify demographics, treatment practices, and clinical variables in the selection of vein ablation devices.

Results: The survey was distributed to 798 practicing physicians, of whom 129 (16%) responded. The specialty distribution of respondents was as follows: vascular surgeons, 54%; phlebologists, 14%; general surgeons, 11%; interventional radiologists, 9%; and other specialties, 6%. The majority (81%) were from the United States, and 65% were self-employed. Almost half (47%) were in practice for >20 years, with 33% of all respondents performing three to five saphenous vein ablations per week. Three-quarters (79%) of respondents preferred radiofrequency ablation (RFA), with 47% believing that it was more cost-effective and more than half (57%) reporting improved patient satisfaction with this technique. Most of them (63%) responded that previous capital investment played a significant role in their choice of vein ablation device along with the associated cost of disposable equipment. A large majority (77%) of physicians responded that they had a significant role in choosing the treatment device, whereas only 17% thought that patients' choice played a major role in device choice. The capital investment affected choice of modality more significantly in newer practices ($P < .0.5$).

Conclusions: The majority of AVF vein specialists prefer an RFA technique to laser, believing that RFA is associated with improved patient outcomes and is more cost-effective. Advances in technology, device costs, and reimbursement levels may have an impact on such preferences in the future. (J Vasc Surg: Venous and Lym Dis 2017;5:75-81.)

Chronic venous disease remains a significant public health problem in the United States and Western countries. Epidemiologic studies have demonstrated that uncomplicated varicose veins affect between 2% and 56% of adult men and 1% to 73% of adult women; chronic venous insufficiency is present in 1% to 17% of men and 1% to 40% of women.[1] Venous ulcer disease may affect between 500,000 and 2 million people annually in the United States and accounts for at least half of all leg ulcerations.[2-4] Contemporary treatment of patients with chronic venous disease includes elimination of saphenous vein reflux by thermal ablation techniques. Although only two types of energy are used for thermal ablation (radiofrequency and laser), a variety of energy generators, fibers, and secondary devices exist. Randomized trials show no significant difference in clinical efficacy between present devices; therefore, factors such as cost, prior experience, and training are likely to influence physicians' selection of the device. We conducted a survey among members of the American Venous Forum (AVF) to help clarify factors that influence a physician's choice of the device in general and for specific patients. The AVF is a multispecialty society that represents the entire spectrum of practice settings from academic to private and from hospital to surgical center and office-based practices. Such diversity is likely to accurately represent the real-world clinical practice situation in the United States. The survey was designed to determine the present practice patterns and to explore the reasons behind choosing one treatment modality over another.

METHODS

The AVF Research Committee designed a questionnaire to better understand the practice patterns for treatment of venous reflux disease across its membership. The survey consisted of questions accompanied by answer options (Appendix, online only). Patients' informed consent was not required. The questionnaire was then electronically distributed a single time to the entire membership of the AVF through Survey Monkey (Survey Monkey Inc, Palo Alto, Calif) in December 2015.

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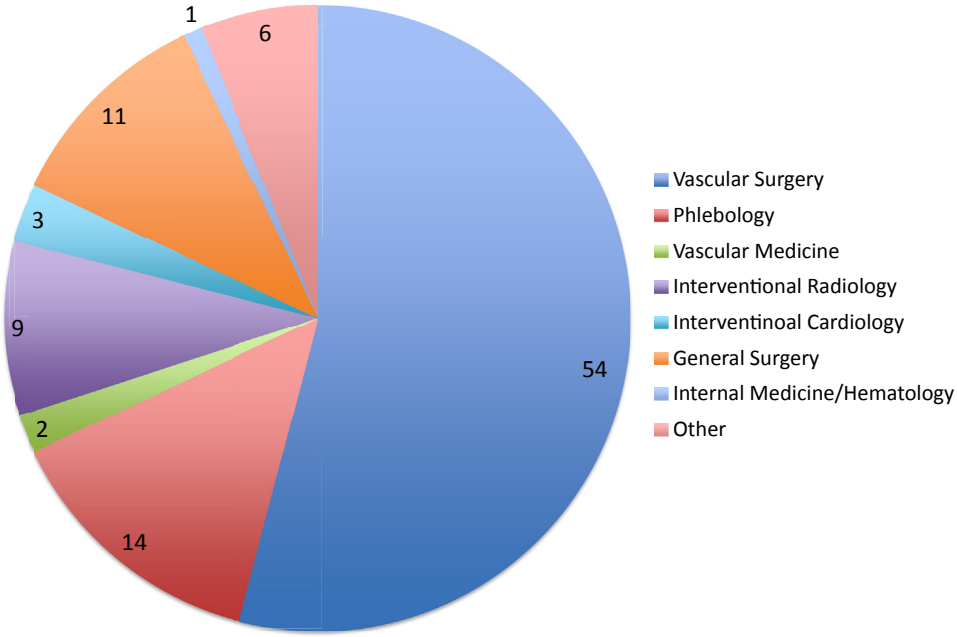

Fig 1. Physician specialty of respondents. Slightly more than half were vascular surgeons, with phlebologists, general surgeons, and interventional radiologists representing the next largest group of specialists.

Responses were voluntary and anonymous. No physician, hospital, or patient identifiers were collected. The first six questions were designed to determine the specialty and setting of physicians taking care of venous leg ulcers, the volume of saphenous veins ablated per week, and the clinical experience of the physician. Questions 7 to 14 were focused on obtaining information about the devices used by physicians for ablation, patient satisfaction, perception of associated costs, physician satisfaction, financial factors affecting choice of ablation device, and the role of physicians and patients in choosing ablation device. This study was approved by the Institutional Review Board of the senior author as an "exempt status" (ProMedica Health Systems; IRB#16-153).

Statistical analysis was performed using IBM SPSS Statistics version 19 (IBM Corp, Armonk, NY). The survey responses were described with standard frequency analyses, and data were reported as numbers and percentages of respondents to a particular question. χ^2 testing was used to identify associations and significant differences. Statistical significance was assigned at $P < .05$.

RESULTS

Respondent demographics. The survey was distributed to 798 practicing physicians. A total of 129 members responded for a response rate of 16%. A large proportion of the physicians identified themselves as vascular surgeons (54%). Additional respondents included phlebologists (14%), general surgeons (11%), interventional radiologists (9%), interventional cardiologists (3%), vascular medicine specialists (2%), internal medicine specialists (1%), and others (6%; Fig 1). The overwhelming majority of respondents (81%) were from the United States, with California, New York, and Texas having the highest number of respondents (10 each respondents; Fig 2). Respondents from other countries included one from Argentina, two from Brazil, two from France, one from Ireland, one from Italy, one from Japan, one from Mexico, three from Russia, one from Spain, and one from Sweden.

The majority (65%) of respondents described themselves as being in a self-employed private practice; 21% described their practices as full-time academic, and 19% were hospital employed.

A third of the respondents (33%) performed 3 to 5 saphenous vein ablations per week, 30% performed 6 to 10 ablations per week, 16% performed >10 ablations per week, and 10% performed <3 ablations per week (Fig 3). Almost half (47%) of the respondents were in practice for >20 years, 27% were in practice between 11 and 20 years, 15% were in practice between 6 and 10 years, and 12% were in practice for <5 years (Fig 4).

Devices used for ablation and factors affecting the decision-making process. The largest group of respondents (79%) used radiofrequency ablation (RFA) for saphenous vein ablation, whereas 66% of respondents used laser, 29% used foam sclerotherapy, 20% used mechanical-chemical ablation (MOCA), and 14% used other modalities. The use of a specific modality was independent of years in practice and had no correlation with the volume of procedures performed, except for foam sclerotherapy, for which there was a statistically significant trend to be used in high-volume practices