

INVITED COMMENTARY

Is Size Important? The French Experience

Mark S. Whiteley *

The Whiteley Clinic, Guildford, UK

The DIAGRAVES study is an excellent example of data collection by a group of clinicians working together.¹ It provides a “snapshot” of great saphenous vein (GSV) diameters in patients presenting to French phlebologists in a “real life” environment.

With this large sample, the authors have been able to confirm a correlation previously described by Lane et al.² between the diameter of the GSV and both clinical class and venous symptoms. They have also shown a correlation between GSV diameter and proximal extent of reflux.

However, when research is presented, questions always arise. With respect to this paper, one of the first questions is whether using one measurement of diameter at mid-thigh “for simplicity” is adequate. As the participants also measured the diameter 3 cm from the saphenofemoral junction, it would have been interesting to know if including that diameter might have changed the conclusions at all. Whether a single measurement, even when focal dilatations are excluded as in this study, is representative of the GSV diameter as a whole may be a potential criticism of this study.

This was a study performed by venous physicians and included patients presenting with symptoms of chronic venous disease. This might explain why the diameters of the refluxing GSVs were smaller than those reported in series of patients undergoing endovenous surgery.^{3,4} This does make this population significantly different from others reported in the literature.

In addition, the authors report the range of diameters, but not the success or failure of the treatment. Therefore, these data cannot be used to further the argument as to whether diameter can be used to ration venous treatment.

Although diameter is usually measured, the question is whether the diameter of the GSV should be used as a single measurement, or whether it might show an even stronger correlation with disease severity if it were related to the size of the patient. It is logical that bigger patients will have bigger veins, and most other measurements in medicine relate treatments to body mass in some way. It would be

very interesting to see if a ratio of GSV diameter to height of the patient, or to their body mass index, might give even better correlations.

Finally, on a more theoretical note, is the internal GSV diameter the right thing to be measuring? As stated, most doctors agree that smaller veins (<6 mm) do better with sclerotherapy than larger veins. Ablative treatment only works in the long term if the ablation is permanent. For permanent ablation, it is clear that transmural cell death of the vein wall is necessary,⁵ avoiding intramural thrombosis and recanalisation due to a “living vein wall skeleton”.⁶

Therefore, when better ultrasound technologies are widely available, vein wall thickness rather than diameter of the whole vein may be a more relevant measurement for planning endovenous treatments. Although different veins in different locations will have widely varying vein wall thicknesses, it remains to be seen if there is a wide enough range of wall thicknesses in different GSVs for such a measurement to have any practical value in this treatment.

However, these musings on the future should not detract from this excellent work that addresses the measurement that most phlebologists currently use: the GSV diameter.

REFERENCES

- 1 Hamel-Desnos CM, De Maeseneer M, Josnin M, Gillet JL, Allaert FA, DIAGRAVES Study Group. Great saphenous vein diameters in phlebological practice in France: a report of the DIAGRAVES Study by the French Society of Phlebology. *Eur J Vasc Endovasc Surg* 2019;58:96–103.
- 2 Lane TRA, Varatharajan L, Fiorentino F, Shepherd AC, Zimmo L, Gohel MS, et al. Truncal varicose vein diameter and patient-reported outcome measures. *Br J Surg* 2017;104:1648–55.
- 3 Koramaz İ, El Kılıç H, Gökalp F, Bitargil M, Bektaş N, Engin E, et al. Ablation of the great saphenous vein with nontumescent n-butyl cyanoacrylate versus endovenous laser therapy. *J Vasc Surg Venous Lymphat Disord* 2017;5:210–5.
- 4 Dabbs EB, Mainsiow LE, Holdstock JM, Price BA, Whiteley MS. A description of the ‘smile sign’ and multi-pass technique for endovenous laser ablation of large diameter great saphenous veins. *Phlebology* 2018;33:534–9.
- 5 Whiteley MS, Holdstock J. Percutaneous radiofrequency ablations of varicose veins (VNUS closure). In: Greenhalgh RM, editor. *Vascular and endovascular challenges*. London: Biba Publishing; 2004. p. 361–81.
- 6 Whiteley M. New methods of vein ablation. In: Davies AH, Lees T, Lane IF, editors. *Venous disease simplified*. London: Harley; 2006. p. 113–30.

DOI of original article: <https://doi.org/10.1016/j.ejvs.2018.09.011>

* Corresponding author. The Whiteley Clinic, 1 Stirling House, Stirling Road, Guildford GU2 7RF, UK.

E-mail address: mark@thewhiteleyclinic.co.uk (Mark S. Whiteley).

1078-5884/© 2019 European Society for Vascular Surgery. Published by Elsevier B.V. All rights reserved.

<https://doi.org/10.1016/j.ejvs.2019.04.032>