

## Editorial

# What Treatment for Varicose Veins?

John Murie

The Royal Infirmary of Edinburgh, Edinburgh EH16 4SA, United Kingdom.

This century has seen the introduction of several innovative developments in the treatment of varicose veins. No longer are we restricted to conventional sclerotherapy or surgery (saphenofemoral or saphenopopliteal disconnection, with or without stripping of the refluxing truncal vein, and multiple phlebectomies) – although the latter procedure is still the most popular form of management world-wide and is the standard against which newer methods must be judged. Today, we can offer foam sclerotherapy under duplex scan guidance and endothermal ablation (by radiofrequency or laser catheter). Still newer methods, based on glue injection and steam ablation, are being advocated. Ignoring – for now – the super-modern, what is the status of those new methods that have already gained considerable traction in day-to-day surgical practice: foam sclerotherapy, radiofrequency ablation and laser ablation?

The ideal method should be cheap, minimally invasive and effective. The desirability of low cost is self-evident. Minimally invasiveness is more complex and it should not just relate to the patient's body, it should also concern the patient's lifestyle. It should imply not just an absence of large wounds and avoidance of general anaesthesia, it should also mean no requirement for hospital admission and no need for multiple visits to the outpatient clinic. Finally, effectiveness should be defined in an appropriate time frame – the procedure should abolish varicosities for many years. We do not yet have an ideal method, but many advocates of the newer techniques seek to convince us that their particular favourite comes close.

Many original scientific articles have been published on the results of new treatments for varicose veins and these have, in turn, spawned several systematic

reviews and meta-analyses (1,2,3,4,5,6) – with varying conclusions. On a background of evidence that is hardly robust, learned societies (7) and government organisations (8) have rather boldly produced clinical guidelines on how varicose veins should be managed. Perhaps the most thorough assessment to date has been that from the School of Health and Related Research at Sheffield University in the United Kingdom, published in August 2014 (9). The authors judged that currently available evidence suggests there is little to choose between conventional surgery and the newer techniques in terms of efficacy or safety, and make a plea for better quality randomized control trials.

In light of the above, it seems reasonable to make the decision on what method to use according to patient and surgeon preference, recognising that no technique is universally applicable (an important caveat). The patient, however, must be supplied with accurate information about all of the possibilities, and not unreasonably directed toward high tech and often expensive solutions. The surgeon should, ideally, have experience in conventional surgery, foam sclerotherapy and either radiofrequency ablation or laser ablation (as these two endothermal methods are so similar), in order that he or she is not biased toward any specific modality because of inexperience with the others.

The general healthcare environment will also affect the choice of modality. In those states that offer healthcare that is funded by taxation and is free at the point of use, cost will rightly be a significant item in decision making. This might also influence the self-paying private patient. If cost is considered, foam sclerotherapy acquires a distinct advantage over all of the other methods (9), albeit that it cannot be applied

in every single case. Nevertheless, for state based healthcare systems it seems reasonable to advocate a policy of treating varicose veins by foam sclerotherapy unless there is a good reason why some alternative should be chosen.

### References

1. Jia X, Mowatt G, Burr JM, Cassar K, Cook J, Fraser C. Systematic review of foam sclerotherapy for varicose veins. *Br J Surg* 2007; 94(8): 925-36.
2. Luebke T, Brunkwall J. Systematic review and meta-analysis of endovenous radiofrequency obliteration, endovenous laser therapy, and foam sclerotherapy for primary varicosis. *J Cardiovasc Surg (Torino)* 2008; 49(2): 213-33.
3. Luebke T, Gawenda M, Heckenkamp J, Brunkwall J. Meta-analysis of endovenous radiofrequency obliteration of the great saphenous vein in primary varicosis. *J Endovasc Ther* 2008; 15(2): 213-23.
4. Murad MH, Coto-Yglesias F, Zumaeta-Garcia M, et al. A systematic review and meta-analysis of the treatments of varicose veins. *J Vasc Surg* 2011; 53(5 Suppl): 49S-65S.
5. Nesbitt C, Eifell RK, Coyne P, Badri H, Bhattacharya V, Stansby G. Endovenous ablation (radiofrequency and laser) and foam sclerotherapy versus conventional surgery for varicose veins. *Cochrane Database Syst Rev* 2011; (10): CD005624.
6. Van der Bos R, Arends L, Kockaert M, Neumann M, Nijsten T. Endovenous therapies of lower extremity varicosities: a meta-analysis. *J Vasc Surg* 2009; 49(1): 230-9.
7. Gloviczki P, Comerota AJ, Dalsing MC, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. *J Vasc Surg* 2011; 53(5 Suppl): 2S-48S.
8. National Institute for Health and Care Excellence (NICE). Varicose veins in the legs: the diagnosis and management of varicose veins. Clinical guideline CG168. NICE: London, 2013.
9. Carroll C, Hummel S, Leaviss J, et al. Systematic review, network meta-analysis and exploratory cost-effectiveness model of randomized trials of minimally invasive techniques versus surgery for varicose veins. *Br J Surg* 2014; 101(9): 1040-52.