



Short Report

Management of Uncomplicated Varicose Veins – A Case Vignette for a Clinical Decision Proposal

T. Willenberg^{a,b}, K. Sritharan^a, T.R.A. Lane^a, A.C. Shepherd^a, A.H. Davies^{a,*}^aAcademic Section of Vascular Surgery, Imperial College School of Medicine, Charing Cross Hospital, London, UK^bSwiss Cardiovascular Center, Division of Clinical and Interventional Angiology Inselspital, University Hospital and University of Bern, Bern, Switzerland

ARTICLE INFO

Article history:

Received 15 July 2011

Accepted 11 September 2011

Available online 31 May 2012

Keywords:

Venous disorder

Varicose veins

ABSTRACT

Venous disorder is common in the general population. Uncomplicated varicose veins represent a significant proportion of the disease burden, and can impact considerably on quality of life, producing a wide spectrum of symptoms. Little is known about the natural course of the disease at this stage and the treatment strategy employed is often not based on robust scientific evidence.

The aim of this article is to elucidate the options to manage uncomplicated varicose veins. There are likely to be significant geographic differences in the treatment strategy employed, and it is hoped that we will arouse discussion among physicians regarding the management of this very common medical condition. The reader will be asked for their preferred treatment choice for a given clinical case vignette.

© 2012 European Society for Vascular Surgery. Published by Elsevier Ltd. All rights reserved.

Background

Venous disorders affect a large proportion of the adult population, and are both commonly encountered in primary care and frequently referred to hospital services.¹ It encompasses a spectrum of diseases, and there are a number of treatment options available, which are likely to be variably practised. The aim of this article is to evaluate current strategies in the management of uncomplicated varicose veins, which represents a significant portion of this condition, in the context of the available evidence.

Recommendations for the treatment of patients with varicose veins should be based on an understanding of the natural history of the condition at this stage, taking into account the likely consequences of leaving the disease untreated and the benefits and risks of any treatments. Conservative and invasive treatment options are available and should be applied taking into account the impact of disease progression, quality of life and health-care resources. In the early disease stages clear scientific evidence is lacking for one or another management option. Therefore, differences in disease awareness and treatment approaches are subject to an animated discussion amongst specialists.

Following reading the clinical vignette, you will be asked to select your preferred management option from a list of three choices.

Case Vignette

A 48-year-old woman was seen by her general practitioner (primary care physician) for a routine examination. He refers the patient to you for your specialist opinion on 'some varicosity' on the left leg. The patient has a past medical history of hypothyroidism for which she takes thyroxin 50 mcg daily. She drinks alcohol rarely and does not smoke.

She is overweight, with a body mass index of 28. Her blood pressure is 130/85 mmHg, and heart rate is 84 beats per minute. Cardiovascular examination is normal. Examination of the legs demonstrates left leg varicosities along the distribution of the great saphenous vein. There are no associated skin changes and no oedema can be detected at this time of the day (10 am).

On questioning, the patient does not report any history of leg trauma, deep vein thrombosis or superficial thrombophlebitis. Her mother suffered from varicose veins without progression to severe skin changes or venous ulceration. She first noticed her left leg varicose veins after her first pregnancy. They increased in prominence during her second pregnancy at the age of 39, but subsequently have remained unchanged. When asked specifically, she confirms that she experiences symptoms of heaviness in the left leg, which is worse in the evening and during hot summer days. She also

* Corresponding author. A.H. Davies, 4 East Department of Vascular Surgery, Fulham Palace Road, London W6 8RF, UK. Tel.: +44 2033117320; fax: +44 2033117362.

E-mail address: a.h.davies@imperial.ac.uk (A.H. Davies).

reports mild swelling of the left calf and ankle. She has not been previously investigated or received treatment for her varicose veins.

The patient following referral to you undergoes a duplex scan, which reveals primary varicose veins with incompetence of the left sapheno–femoral junction and long saphenous vein down to the proximal calf region and two tributaries. The deep venous system is normal and competent.

Which one of the following management strategies, any of which would be considered correct, would you employ for this patient? Please base your choice on your routine clinical practice.

- No further diagnostic work-up or treatment. Follow-up at routine visits with the GP once a year. No special treatment recommendations.
- Recommend the use of compression stockings (e.g., 20–30 mmHg) during work and periods of prolonged standing.
- Ask the patient for her preferences, explain the evidence for the natural course of the disease and for the various treatment options and decide according to patient's preference.
- Consider ablative treatment for varicose veins, only if there is secured funding.
- Clear statement for varicose vein ablation. Treatment is indicated to prevent further evolution of venous disorder in this relatively young and otherwise healthy subject.

Comment on Case Vignette

In the case presented, the patient has clinical stage C2 according to the clinical classification of the Clinical Etiology Anatomical Pathological (CEAP) system.² Duplex scan reveals a primary varicosity with complete incompetence of the long saphenous vein down to the proximal calf level giving rise to two tributaries. The deep venous system is normal and competent.

This is a commonly encountered situation and any interventional treatment, given the above, might be considered to be fairly controversial in this patient, as there are no significant skin changes and apparently no substantial reduction of quality of life. Conservative and invasive treatment options will be briefly presented below. However, according to the latest recommendation of the Venous Forum of the Royal Society of Medicine, ablative treatment at this stage of disease should be considered, but is not compulsory.³ A slightly more aggressive stance is advocated in the recent Clinical Practice Guidelines of the Society for Vascular Surgery and the American Venous Forum. Based on grade 1B evidence (best estimates of the critical benefits and risks outcome from randomised, controlled trials with important limitations), they advise against compression therapy as a first line approach, and recommend endothermal saphenous vein ablation as the primary treatment of symptomatic varicose veins in those patients who are suitable for therapy.⁴

Treatment Options for Varicose Veins

Conservative treatment

Compression therapy forms the cornerstone of conservative treatment for venous disorders independent of the underlying cause.⁵ If no invasive or ablative treatment is being contemplated, it can be suggested even without diagnostic work-up, in the absence of significant peripheral vascular disease. A calf-long medical compression stocking with a defined ankle pressure of 20–30 mmHg, that is, class II compression hosiery is usually adequate. However, the data available suggest that compliance to compression therapy is generally poor.⁶ Moreover, given the relatively young age of the patient, who is also likely to be in good health, lifelong medical

compression therapy is unlikely to be considered to be an acceptable option by the patient and indeed is unlikely to be cost effective. Anti-oedema drugs, for example, horse-chestnut-seed extracts, hydroxyethylrutosides, (Daflon[®]) and red-vine-leaf extract AS195 (Antistax[®]), have been shown to be efficacious in the treatment of venous symptoms in previous trials and should be considered.^{7–10} However, their long-term impact on disease progression and skin changes is unknown. Other conservative measures, such as lifestyle changes, have not been shown to offer any long-term preventative or beneficial effect in the presented case vignette.

Invasive treatment

Nowadays, there are a number of treatment options available for ablation of varicose veins.^{11–14} Surgery was previously considered to be the gold standard, but is now sidelined by less invasive techniques, such as, endothermal procedures, for example, laser or radiofrequency ablation and ultrasound guided foam sclerotherapy.^{11–14} These treatment modalities can be performed in an outpatient setting under local anaesthesia, and their use is guided and dependent on the anatomic/physiological findings on duplex.

Patient co-morbidities, skill of the treating specialist, local health-care system proprieties and patient preference are all factors that will influence the therapeutic modality applied. Short- and mid-term results for endothermal ablation are promising and have led to their routine use in many centres. Severe adverse events appear to be very rare with both endothermal ablation and foam sclerotherapy.^{11–14}

Conclusion

This case vignette presents a commonly encountered situation for the venous specialist. Different treatment options, any of each to be considered correct, can be applied. More long-term data of randomised controlled trials are needed to tailor the management of uncomplicated varicose veins.

Conflict of Interest/Funding

None.

References

- Evans CJ, Fowkes FG, Ruckley CV, Lee AJ. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. *J Epidemiol Community Health* 1999 Mar;**53**(3):149–53.
- Eklof B, Rutherford RB, Bergan JJ, Carpentier PH, Gloviczki P, Kistner RL, et al. Revision of the CEAP classification for chronic venous disorders: consensus statement. *J Vasc Surg* 2004 Dec;**40**(6):1248–52.
- Recommendations for the referral and treatment of patients with lower limb chronic venous insufficiency (including varicose veins). *Phlebology* 2011;**26**(3):91–3.
- Gloviczki P, Comerota A, Dalsing MC, Eklof B, Gillespie D, Gloviczki ML, et al. The care of patients with varicose veins and associated chronic venous diseases. Clinical practise guidelines of the Society for Vascular Surgery and the American Venous Forum. *J Vasc Surg* 2011;**53**(5 Suppl):2S–48S.
- Bergan JJ, Schmid-Schonbein GW, Smith PD, Nicolaidis AN, Boisseau MR, Eklof B. Chronic venous disease. *N Engl J Med* 2006 Aug 3;**355**(5):488–98.
- Raju S, Hollis K, Neglen P. Use of compression stockings in chronic venous disease: patient compliance and efficacy. *Ann Vasc Surg* 2007 Nov;**21**(6):790–5.
- Gohel MS, Davies AH. Pharmacological treatment in patients with C4, C5 and C6 venous disease. *Phlebology* 2010 Oct;**25**(Suppl. 1):35–41.
- Kalus U, Koscielny J, Grigorov A, Schaefer E, Peil H, Kiesewetter H. Improvement of cutaneous microcirculation and oxygen supply in patients with chronic venous insufficiency by orally administered extract of red vine leaves AS 195: a randomised, double-blind, placebo-controlled, crossover study. *Drugs R D* 2004;**5**(2):63–71.
- Kiesewetter H, Koscielny J, Kalus U, Vix JM, Peil H, Petrini O, et al. Efficacy of orally administered extract of red vine leaf AS 195 (folia vitis viniferae) in chronic venous insufficiency (stages I–II). A randomized, double-blind, placebo-controlled trial. *Arzneimittelforschung* 2000 Feb;**50**(2):109–17.

- 10 Rabe E, Stucker M, Esperester A, Schafer E, Ottillinger B. Efficacy and tolerability of a red-vine-leaf extract in patients suffering from chronic venous insufficiency—results of a double-blind placebo-controlled study. *Eur J Vasc Endovasc Surg* 2011 Apr;**41**(4):540–7.
- 11 Darwood RJ, Gough MJ. Endovenous laser treatment for uncomplicated varicose veins. *Phlebology* 2009;**24**(Suppl. 1):50–61.
- 12 Gohel MS, Davies AH. Radiofrequency ablation for uncomplicated varicose veins. *Phlebology* 2009;**24**(Suppl. 1):42–9.
- 13 Jia X, Mowatt G, Burr JM, Cassar K, Cook J, Fraser C. Systematic review of foam sclerotherapy for varicose veins. *Br J Surg* 2007 Aug;**94**(8):925–36.
- 14 Coleridge Smith P. Sclerotherapy and foam sclerotherapy for varicose veins. *Phlebology* 2009 Dec;**24**(6):260–9.