NICE 2016

Management Strategies for patients with varicose veins(C2-C6)

Professor Alun H Davies

Section of Vascular Surgery

Charing Cross & St Mary's Hospitals

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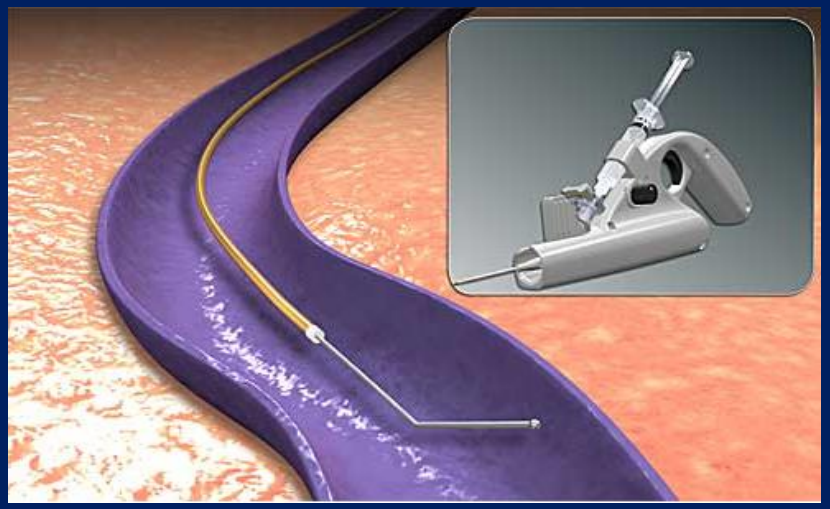
Imperial College London

Phlebology



Epidemiology of chronic venous disorders in geographically diverse populations: results from the Vein Consult Program

E. RABE [1], J.-J. GUEX [2], A. PUSKAS [3], A. SCUDERI [4]
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[5]*Hospital Universitario San Cecilio, Granada, Spain*
[6]*National coordinators of the Vein Consult Program (VCP)**

TABLE I.—*Distribution of the study centres with the number of subjects by geographical zone.*

Western Europe	Central and Eastern Europe	Latin America	Middle East	Far East
N=36004	N=32225	N=12686	N=3518	N=7112
France	Georgia	Brazil	Pakistan	Indonesia
Spain	Hungary	Columbia	Emirates (UAE)	Singapore
	Romania	Mexico		Thailand
	Russia	Venezuela		Vietnam
	Serbia			
	Slovak republic			
	Slovenia			
	Ukraine			

Epidemiology of chronic venous disorders in geographically

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A or S

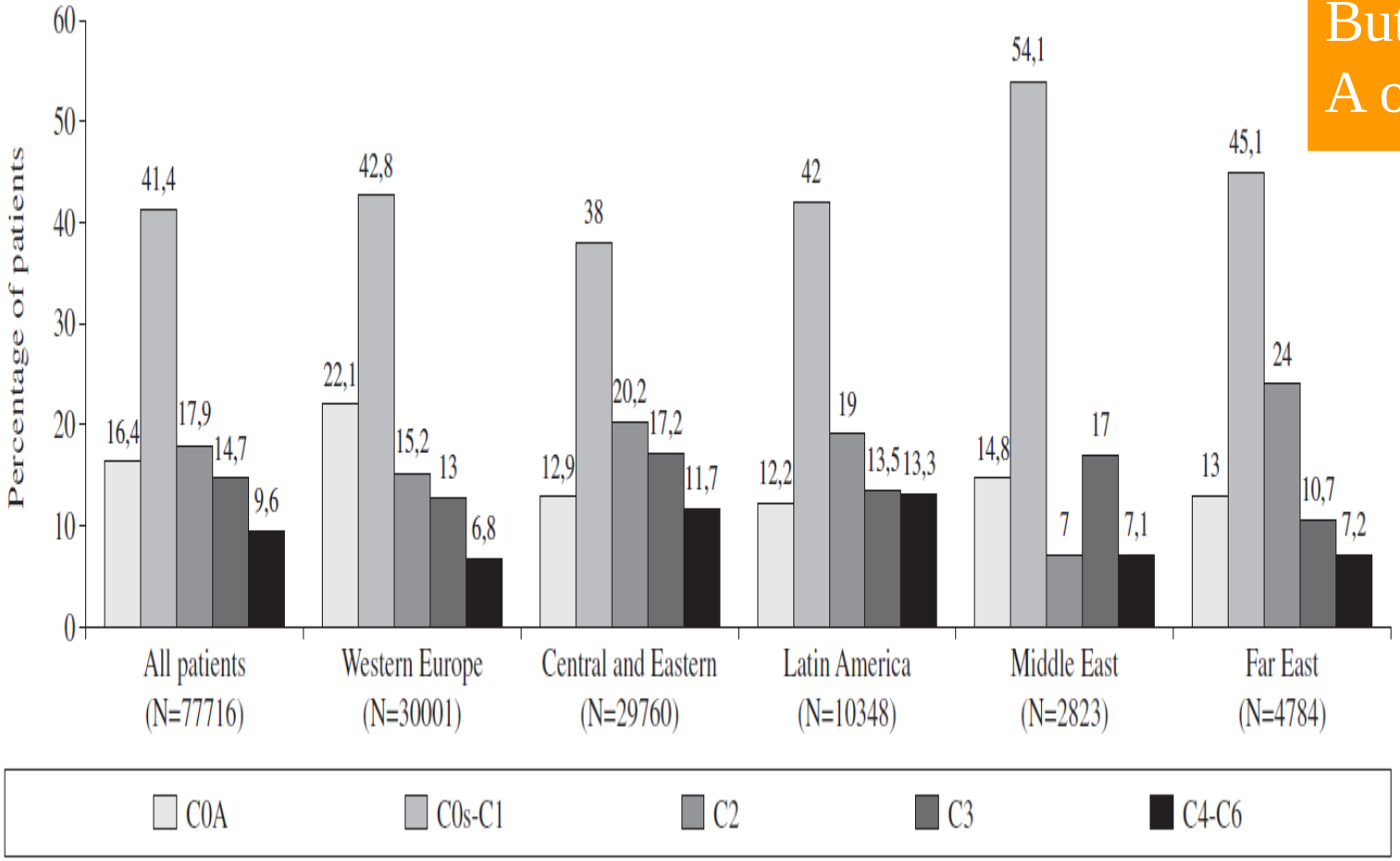

Figure 1.—Distribution of the CEAP clinical classes according to geographical areas.

Epidemiology of chronic venous disorders in geographically

60-

TABLE V.—*GPs' behavior towards CVD patients and referral of patients to specialists by geographical area.*

% subjects considered as CVD patients by GPs		All subjects (N=62378)	Western Europe (N=23662)	Central and Eastern Europe (N=22770)	Latin America (N=9285)	Middle East (N=1773)	Far East (N=4888)
CEAP	N.	Statistics					
C0s	15290	3902 (25.5%)	37.8%	15.3%	13.9%	14.3%	56.1%
C1	16901	12619 (74.7%)	71.5%	77.0%	78.7%	72.8%	76.1%
C2	13888	12394 (89.2%)	85.8%	91.8%	94.5%	84.8%	81.0%
C3	11392	10385 (91.2%)	90.4%	94.2%	98.0%	69.4%	68.5%
C4	5814	5330 (91.7%)	93.5%	94.8%	99.4%	82.2%	26.8%
C5	1122	1078 (96.1%)	96.4	96.8%	97.2%	85.3%	70.6%
C6	535	502 (93.8%)	95.3%	95.0%	100.0%	89.5%	69.8%
% patients eligible to specialist referral							
CEAP	N.	Statistics					
C0s	15290	634 (4.1%)	5.0%	4.7%	3.1%	2.3%	0.2%
C1	16901	2648 (15.7%)	9.0%	29.9%	10.3%	16.2%	1.3%
C2	13888	5097 (36.7%)	20.5%	54.7%	35.9%	53.0%	5.8%
C3	11392	4950 (43.5%)	24.2%	63.8%	39.0%	34.3%	7.2%
C4	5814	2971 (51.1%)	34.3%	65.5%	53.5%	47.9%	8.1%
C5	1122	618 (55.1%)	48.0%	58.7%	55.5%	67.6%	5.9%
C6	535	322 (60.2%)	62.4%	55.4	72.4%	73.7%	35.8%

Epidemiology of chronic venous disorders in geographically

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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

Peter Gloviczki, MD,[a] Anthony J. Comerota, MD,[b] Michael C. Dalsing, MD,[c] Bo G. Eklof, MD,[d] David L. Gillespie, MD,[e] Monika L. Gloviczki, MD, PhD,[f] Joann M. Lohr, MD,[g] Robert B. McLafferty, MD,[h] Mark H. Meissner, MD,[i] M. Hassan Murad, MD, MPH,[j] Frank T. Padberg, MD,[k] Peter J. Pappas, MD,[k] Marc A. Passman, MD,[l] Joseph D. Raffetto, MD,[m] Michael A. Vasquez, MD, RVT,[n] and **Thomas W. Wakefield, MD,[o]** *Rochester, Minn; Toledo, Ohio; Indianapolis, Ind; Helsingborg, Sweden; Rochester, NY; Cincinnati, Ohio; Springfield, Ill; Seattle, Wash; Newark, NJ; Birmingham, Ala; West Roxbury, Mass; North Tonawanda, NY; and Ann Arbor, Mich*

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Guideline 9. Compression treatment

Guideline No.	*9. Compression treatment*	*GRADE of recommendation*	*Level of evidence*
		1. Strong	A. High quality
		2. Weak	B. Moderate quality
			C. Low or very low quality
9.1	We suggest compression therapy using moderate pressure (20 to 30 mm Hg) for patients with symptomatic varicose veins.	2	C
9.2	We recommend against compression therapy as the primary treatment of symptomatic varicose veins in patients who are candidates for saphenous vein ablation.	1	B
9.3	We recommend compression as the primary therapeutic modality for healing venous ulcers.	1	B
9.4	We recommend compression as an adjuvant treatment to superficial vein ablation for the prevention of ulcer recurrence.	1	A

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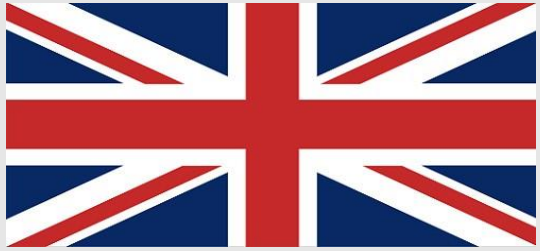
Guideline 11. Endovenous thermal ablation

Guideline No.	*11. Endovenous thermal ablation*	*GRADE of recommendation*	*Level of evidence*
		1. Strong 2. Weak	A. High quality B. Moderate quality C. Low or very low quality
11.1	Endovenous thermal ablations (laser and radiofrequency ablations) are safe and effective, and we recommend them for treatment of saphenous	1	B
11.2	Because of reduced convalescence and less pain and morbidity, we recommend endovenous thermal ablation of the incompetent saphenous vein over open surgery.	1	B
9.3	We recommend compression as the primary therapeutic modality for healing venous ulcers.	1	B
9.4	We recommend compression as an adjuvant treatment to superficial vein ablation for the prevention of ulcer recurrence.	1	A

Varicose veins in the legs

The diagnosis and management of varicose veins



Clinical guideline

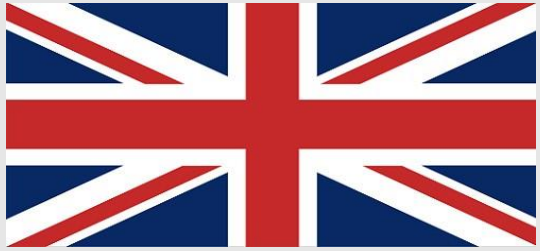
Methods, evidence and recommendations

July 2013

Varicose veins in the legs

The diagnosis and management of varicose veins

Cost about £500,000 to do



Clinical guideline

Methods, evidence and recommendations

July 2013

Key Recommendation

Referral to a vascular service

3. **Refer people with bleeding varicose veins to a vascular service immediately.**

4. **Refer people to a vascular service* if they have any of the following.**
   - **Symptomatic[4] primary or symptomatic recurrent varicose veins.**
   - **Lower-limb skin changes, such as pigmentation or eczema, thought to be caused by chronic venous insufficiency.**
   - **Superficial vein thrombosis (characterised by the appearance of hard, painful veins) and suspected venous incompetence.**
   - **A venous leg ulcer (a break in the skin below the knee that has not healed within 2 weeks).**
   - **A healed venous leg ulcer.**

*A team of healthcare professionals who have the skills to undertake a full clinical and duplex ultrasound assessment and provide a full range of treatment.

[4]Veins found in association with troublesome lower limb symptoms (typically pain, aching, discomfort, swelling, heaviness and itching).

Not use CEAP Classification for referral guidance

NHS
National Institute for Health and Clinical Excellence

Recommendations – 6/7/8 -Treatment

Interventional treatment

6. For people with confirmed varicose veins and truncal reflux:
   - Offer endothermal ablation(see Radiofrequency ablation of varicose veins [NICE interventional procedure guidance 8] and Endovenous laser treatment of the long saphenous vein [NICE interventional procedure guidance 52]).
   - If endothermal ablation is unsuitable, offer ultrasound-guided foam sclerotherapy (see Ultrasound-guided foam sclerotherapy for varicose veins [NICE interventional procedure guidance 440).
   - If ultrasound-guided foam sclerotherapy is unsuitable, offer surgery.

   If incompetent varicose tributaries are to be treated, consider treating them at the same time.

7. If offering compression bandaging or hosiery for use after interventional treatment, do not use for more than 7 days.

Non-interventional treatment

8. Do not offer compression hosiery to treat varicose veins unless interventional treatment is unsuitable.

Editor's Choice — Management of Chronic Venous Disease

Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)

Writing Committee [a] **C. Wittens, A.H. Davies, N. Bækgaard, R. Broholm, A. Cavezzi, S. Chastanet, M. de Wolf, C. Eggen, A. Giannoukas, M. Gohel, S. Kakkos, J. Lawson, T. Noppeney, S. Onida, P. Pittaluga, S. Thomis, I. Toonder, M. Vuylsteke,**
ESVS Guidelines Committee [b] **P. Kolh, G.J. de Borst, N. Chakfé, S. Debus, R. Hinchliffe, I. Koncar, J. Lindholt, M.V. de Ceniga, F. Vermassen, F. Verzini,**
Document Reviewers [c] **M.G. De Maeseneer, L. Blomgren, O. Hartung, E. Kalodiki, E. Korten, M. Lugli, R. Naylor, P. Nicolini, A. Rosales**

Eur J Vasc Endovasc Surg (2015) 49, 678—737

Recommendation 11	Class	Level	References
Duplex ultrasound is recommended as the primary diagnostic test of choice in suspected chronic venous disease, to reliably evaluate the specific venous anatomy and to identify the source and pattern of reflux.	I	A	147, 151, 152
Recommendation 12			
In the presence of suspected abdominal and or pelvic venous pathology, duplex ultrasound is recommended before phlebography, computed tomography venography, and magnetic resonance venography examinations.	I	C	[illegible]
Recommendation 13	**Class**	**Level**	**References**
Duplex ultrasound is recommended for the assessment of recurrent varicose veins to identify the source of recurrence.	I	C	148, 165, 170

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Recommendation 38	Class	Level	References
Liquid or foam sclerotherapy is not recommended as the first choice treatment for chronic venous disease C2-C6 due to saphenous vein incompetence. It should be used only as primary treatment in selected cases.	III	A	317-320, 328-331
Recommendation 39			
Foam sclerotherapy is recommended as a second choice treatment of varicose veins (C2) and for more advanced stages of chronic venous disease (C3-C6) in patients with saphenous vein incompetence, not eligible for surgery or endovenous ablation.	I	A	314, 328, 329
Recommendation 40			
Foam sclerotherapy should be considered as primary treatment in patients with recurrent varicose veins, and in elderly and frail patients with venous ulcers.	IIa	B	334, 335
Recommendation 41			
Liquid sclerotherapy should be considered for treating telangiectasias and reticular veins (C1).	IIa	B	308

SAME

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- Clinical assessment
- Investigation
- Treatment hierarchy

CLASS TRIAL


CLASS Conclusions
UGFS is associated with:
• significantly less improvement in QoL
• more complications
• reduced ablation rates at 6 months
and on modelling is not cost-effective at 5 years compared to EVLA or surgery
EVLA compared to surgery- greater gain in SF36, less cost & complications, equivalent VCSS/ablation rates
Vascular Society, November 2013
VASCULAR SOCIETY
ANNUAL SCIENTIFIC MEETING
2013

AL

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Randomized Trial Comparing Treatments for Varicose Veins

Julie Brittenden, M.D., Seonaidh C. Cotton, Ph.D., Andrew Elders, M.Sc., Craig R. Ramsay, Ph.D., John Norrie, M.Sc., Jennifer Burr, M.D., Bruce Campbell, M.B., B.S., Paul Bachoo, M.B., Ch.B., Ian Chetter, M.B., Ch.B., M.D., Michael Gough, M.B., Ch.B., Jonothan Earnshaw, D.M., Tim Lees, M.B., Ch.B., M.D., Julian Scott, M.B., Ch.B., M.D., Sara A. Baker, M.Sc., Jill Francis, Ph.D., Emma Tassie, M.Sc., Graham Scotland, Ph.D., Samantha Wileman, Ph.D., and Marion K. Campbell, Ph.D.

Endothermal > Surgery > Foam

AL

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Randomized Trial Comparing Treatments for Varicose Veins

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y > Foam

Five year data being collected

Original article

Cost-effectiveness of traditional and endovenous treatments for varicose veins

M. S. Gohel[1], D. M. Epstein[2] and A. H. Davies[1]

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Eur J Vasc Endovasc Surg (2015) 50, 794—801

A Cost-effectiveness Analysis of Surgery, Endothermal Ablation, Ultrasound-guided Foam Sclerotherapy and Compression Stockings for Symptomatic Varicose Veins

G. Marsden [a,f,*], M. Perry [a], A. Bradbury [b], N. Hickey [c], K. Kelley [a], H. Trender [d], D. Wonderling [a], A.H. Davies [e]

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[b] University Department of Vascular Surgery, University of Birmingham, Solihull, UK
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[e] Department of Surgery & Cancer, Imperial College & Imperial College NHS Trust, Charing Cross Hospital, London, UK

COST-EFFECTIVENESS OF RADIOFREQUENCY ABLATION VERSUS LASER FOR VARICOSE VEINS

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Department of Applied Economics, University of Granada
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Original article

Cost-effectiveness of ultrasound-guided foam sclerotherapy, endovenous laser ablation or surgery as treatment for primary varicose veins from the randomized CLASS trial

E. Tassie[1], G. Scotland[1,2], J. Brittenden[3], S. C. Cotton[2], A. Elders[2], M. K. Campbell[2], B. Campbell[4], M. Gough[5], J. M. Burr[6] and C. R. Ramsay[2] on behalf of the CLASS study team

[1]Health Economics Research Unit, [2]Health Services Research Unit and [3]Division of Applied Medicine, University of Aberdeen, Aberdeen, [4]Royal Devon and Exeter Hospital and University of Exeter Medical School, Exeter, [5]Vascular Surgery, Vascular Laboratory, St James's University Hospital, Leeds, and [6]School of Medicine, Medical and Biological Sciences, University of St Andrews, St Andrews, UK
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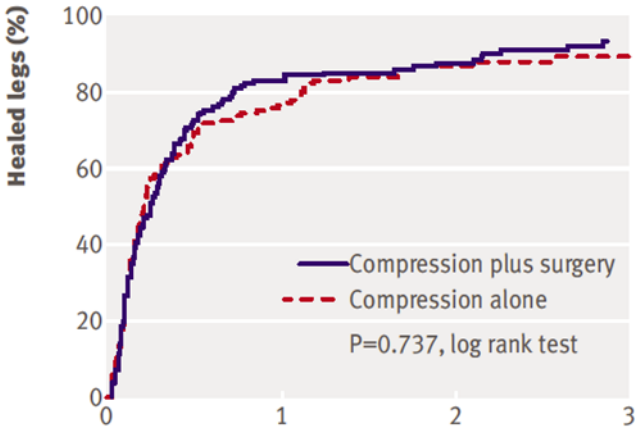
BMJ

RESEARCH

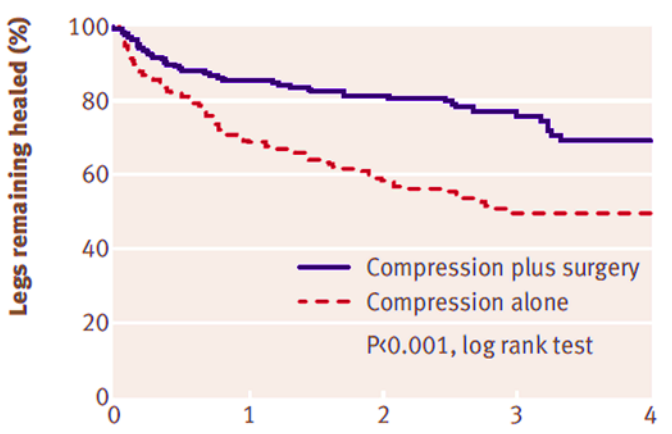
Long term results of compression therapy alone versus compression plus surgery in chronic venous ulceration (ESCHAR): randomised controlled trial

Manjit S Gohel, specialist registrar,[1] Jamie R Barwell, consultant vascular and transplant surgeon,[2] Maxine Taylor, leg ulcer nurse specialist,[1] Terry Chant, vascular nurse specialist,[3] Chris Foy, medical statistician,[4] Jonothan J Earnshaw, consultant surgeon,[5] Brian P Heather, consultant surgeon,[5] David C Mitchell, consultant surgeon,[3] Mark R Whyman, consultant surgeon,[1] Keith R Poskitt consultant surgeon[1]



Numbers at risk				Time (years)
Compression plus surgery	185	33	13	6
Compression alone	156	24	15	5

No difference in ulcer healing



Numbers at risk					Time (years)
Compression plus surgery	216	166	124	68	27
Compression alone	226	139	98	45	10

Surgery reduces venous ulcer recurrence

ELSEVIER

Chronic Venous Ulcer: Minimally Invasive Treatment of Superficial Axial and … Vein Reflux Speeds Healing and … Recurrence

Peter B. Alden, Erin M. Lips, Kate P. Zimmerman, Ross F. Garberich, Alexander S. Tretiyak, Jason Q. Alexander, Kathryn M. Dorr, Mark … and Sarah L. Isakson, Minneapolis, Minnesota

Background: Chronic venous ulcer (CVU) is common and is responsib… cs expenditures worldwide. Compression is the mainstay of treatment, b… with this therapy is often inconsistent, particularly in the elderly and infirm. S… and perforator reflux has been used as an adjunct to compression to redu… as sist healing. These surgical techniques are being replaced by minima… such as thermal ablation and foam sclerotherapy, in the treatment of … disease. The role for these techniques in the treatment of CVU is just beg…

Methods: Eighty-six patients with CVU with 95 active ulcers (Clinic… Physiology-CEAP clinical class 6) presenting to a multispecialty wound cl… reviewed and analyzed by leg. All patients underwent duplex scanning f… Ulcer dimensions at each visit were recorded and used to calculate hea… absence of ulcer recurrence at 1-year follow-up was recorded. Ulcers tr… alone ("compression group") were compared with those treated with com… invasive interventions, such as thermal ablation of superficial axial reflux… foam sclerotherapy (UGFS) of incompetent perforating veins and varicose ve…

Results: The average age in the intervention and compression groups… respectively (P = not significant [NS]). Body mass index was 32.4 ± 9… m^2, in the compression and intervention groups, respectively (P = not … were recurrent in 42% of the intervention group and 28% of the compres… the intervention group, 35% had radiofrequency ablation of axial reflux, 3… nators, and 29% had both treatments. The only complication of interventi… cellulitis requiring hospitalization. Compared with the compression group… vention group healed faster (9.7% vs. 4.2% per week; P = 0.001) and sh… at 1-year follow-up (27.1% vs. 46.9 %; P < 0.015). Multivariate analysis s… tion was the strongest determinant of healing with a coefficient of variat… P = 0.003. Analysis of just the intervention group before and after inter… pairs showed acceleration of healing after intervention from ranging f… (interquartile range [IQR], 14.3) to 9.7% (IQR, 11.3) per week ($P \leq 0.0$…

Conclusions: Minimally invasive ablation of superficial axial and p… patients with active CVU is safe and leads to faster healing and decr… when combined with compression alone in the treatment of CVU.

Presented at the 22nd Annual Winter Meeting of the Peripheral Vascular Surgery Society, Vail, CO, January 23–29, 2012.

Division of Vascular Surgery, Minneapolis Heart Institute, Abbott Northwestern Hospital, Minneapolis, MN.

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Eur J Vasc Endovasc Surg (2010) 40, 790–795

ELSEVIER

Healing and Recurrence Rates Following Ultrasound-guided Foam Sclerotherapy of … Superficial Venous Reflux in Patients with Chronic Venous Ulceration

K.H. Pang*, G.R. Bate, K.A.L. Darvall, D.J. Adam, A.W. Bra…

Birmingham University, Department of Vascular Surgery, Heart of England Foundation Trust, …

Submitted 10 April 2010; accepted 2 August 2010
Available online 27 September 2010

KEYWORDS
Ultrasound-guided foam sclerotherapy;
Chronic venous ulcers;
Healing rates;
Recurrence rates

Abstract *Objectives:* To determine healing and recurrence rates… foam sclerotherapy (UGFS) of superficial venous reflux (SVR) in p… etiologic, anatomic and pathophysiologic (CEAP) classification… venous ulceration (CVU).
Methods: Between 1 March 2005 and 31 December 2009, 130 con… 49 CEAP C5, 83 C6) of median age 70 (interquartile range (IQR) 5… as part of their treatment for CVU.
Results: The median (IQR) follow-up time was 16 (12–32) mon… abroad 1 week after UGFS and was lost to follow-up. Healing wa… maining C6 patients at a median (IQR) of 1 (1–2) month following … 49 limbs originally treated for C5 disease, and in 67 limbs treated … UGFS, there were five recurrent ulcers during the follow-up period… estimate of recurrence at 2 years. In legs treated for C6 and C… ulcer-free periods were 22 (IQR 9–32) and 14 (IQR 8–36) months…
Discussion: Healing rates following UGFS for CVU are compara… surgery but recurrence may be lower. UGFS is a safe, clinically… attractive minimally invasive alternative to surgery in patients w…
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Original article

Effect of foam sclerotherapy on healing and long-term recurrence in chronic venous leg ulcers

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Cheltenham General Hospital, Cheltenham, Gloucestershire, UK

Abstract

Introduction: The ESCHAR trial showed that superficial venous surgery and compression in chronic venous ulceration achieved a 24-week healing rate of 65% and 12-month recurrence rate of 12%. Foam sclerotherapy treatment is an alternative to surgery. The aim of this study is to assess the effect of foam sclerotherapy on ulcer healing and recurrence in chronic venous leg ulcers.

Methods: Chronic venous leg ulcers (CEAP [clinical, aetiological, anatomical and pathological elements] 5 and CEAP 6) with superficial venous reflux were treated between March 2006 and June 2011 with ultrasound-guided foam sclerotherapy and compression. Venous duplex was performed on all legs before and after treatment. Twenty-four-week ulcer healing and one- and four-year ulcer recurrence rates were calculated using Kaplan–Meier survival analysis.

Results: Two hundred legs (186 patients) with chronic venous ulcers (CEAP 5: $n = 168$ and CEAP 6: $n = 37$) were treated with foam sclerotherapy. Complete occlusion was achieved in 185/200 (92.5%) limbs, short segment occlusion in 14/200 (7%) limbs and one leg segment failed to occlude. One patient suffered an asymptomatic non-occlusive deep vein thrombosis (DVT) diagnosed on duplex scan at one week and one presented with an occlusive DVT three weeks following a normal scan at one week. One patient developed an asymptomatic occlusive DVT at two weeks following a non-occlusive DVT diagnosed on initial one-week scan. Eighteen patients were lost to follow-up (3 moved away and 15 died of unrelated causes). The 24-week healing rate was 71.1% and one- and four-year recurrence rates were 4.7% and 28.1%, respectively.

Conclusion: Foam sclerotherapy is effective in abolition of superficial venous reflux and may contribute to similar ulcer healing and long-term recurrence rates to superficial venous surgery. Foam sclerotherapy is an attractive alternative to surgery in this group of patients.

Keywords: foam sclerotherapy; venous ulceration; superficial venous reflux; ulcer healing; ulcer recurrence

Introduction

If left untreated, persistent venous hypertension as a result of superficial venous reflux may lead to venous leg ulceration.[1] This condition can affect any age group but it is particularly common in the elderly population, causing considerable morbidity, pain and distress.[2] Subsequent treatment places a significant economic burden on the National Health Service (NHS).[3]

The ESCHAR trial published in 2003 by Barwell *et al.*[4] showed that superficial venous surgery led to significant reduction in venous ulcer recurrence rates at one year (12% in the surgery plus compression group against 28% in the compression alone group). The long-term follow-up of this

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Management of venous leg ulcers: Clinical practice guidelines of the Society for Vascular Surgery® and the American Venous Forum

Endorsed by the American College of Phlebology and the Union Internationale de Phlébologie

Thomas F. O'Donnell Jr, MD, Marc A. Passman, MD, William A. Marston, MD, William J. Ennis, DO, Michael Dalsing, MD, Robert L. Kistner, MD, Fedor Lurie, MD, PhD, Peter K. Henke, MD, Monika L. Gloviczki, MD, PhD, Bo G. Eklöf, MD, PhD, Julianne Stoughton, MD, Sesadri Raju, MD, Cynthia K. Shortell, MD, Joseph D. Raffetto, MD, Hugo Partsch, MD, Lori C. Pounds, MD, Mary E. Cummings, MD, David L. Gillespie, MD, Robert B. McLafferty, MD, Mohammad Hassan Murad, MD, Thomas W. Wakefield, MD, and Peter Gloviczki, MD

Guideline 3.9: Venous Duplex Ultrasound

We recommend comprehensive venous duplex ultrasound examination of the lower extremity in all patients with suspected venous leg ulcer. [GRADE - 1; LEVEL OF EVIDENCE - B]

COMPRESSION

Guideline 5.1: Compression—Ulcer Healing

In a patient with a venous leg ulcer, we recommend compression therapy over no compression therapy to increase venous leg ulcer healing rate. [GRADE - 1; LEVEL OF EVIDENCE - A]

Guideline 5.2: Compression—Ulcer Recurrence

In a patient with a healed venous leg ulcer, we suggest compression therapy to decrease the risk of ulcer recurrence. [GRADE - 2; LEVEL OF EVIDENCE - B]

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We recommend comprehensive venous duplex ultrasound examination of the lower extremity in all patients

OPERATIVE/ENDOVASCULAR MANAGEMENT

Guideline 6.1: Superficial Venous Reflux and Active Venous Leg Ulcer—Ulcer Healing

In a patient with a venous leg ulcer (C6) and incompetent superficial veins that have axial reflux directed to the bed of the ulcer, we suggest ablation of the incompetent veins in addition to standard compressive therapy to improve ulcer healing. [GRADE - 2; LEVEL OF EVIDENCE - C]

Guideline 6.2: Superficial Venous Reflux and Active Venous Leg Ulcer—Prevent Recurrence

In a patient with a venous leg ulcer (C6) and incompetent superficial veins that have axial reflux directed to the bed of the ulcer, we recommend ablation of the incompetent veins in addition to standard compressive therapy to prevent recurrence. [GRADE - 1; LEVEL OF EVIDENCE - B]

Guideline 6.3: Superficial Venous Reflux and Healed Venous Leg Ulcer

In a patient with a healed venous leg ulcer (C5) and incompetent superficial veins that have axial reflux directed to the bed of the ulcer, we recommend ablation of the incompetent veins in addition to standard compressive therapy to prevent recurrence. [GRADE - 1; LEVEL OF EVIDENCE - C]

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Early Venous Reflux Ablation study

EVRA

450 PATIENTS

Venous ulceration <6 months

Superficial reflux

Compression ←→ Compression + EVRA (<2 weeks)

Primary outcome: time to ulcer healing

Imperial College London

NHS National Institute for Health Research

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,*]

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[b] *Swiss Cardiovascular Center, Division of Clinical and Interventional Angiology Inselspital, University Hospital and University of Bern, Bern, Switzerland*

esvs Journal

2012

a) No further diagnostic work-up or treatment. Follow-up at routine visits with the GP once a year. No special treatment recommendations.
b) Recommend the use of compression stockings (e.g., 20–30 mmHg) during work and periods of prolonged standing.
c) 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.
d) Consider ablative treatment for varicose veins, only if there is secured funding.
e) Clear statement for varicose vein ablation. Treatment is indicated to prevent further evolution of venous disorder in this relatively young and otherwise healthy subject.

Eur J Vasc Endovasc Surg (2015) 49, 213–220

Management Strategies for Patients with Varicose Veins (C2–C6): Results of a Worldwide Survey

S.K. van der Velden [a,*], O. Pichot [b], R.R. van den Bos [a], T.E.C. Nijsten [a], M.G.R. De Maeseneer [a,c]

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[b] Department of Vascular Medicine, University Hospital of Grenoble, Grenoble, France
[c] Faculty of Medicine and Health Sciences, University of Antwerp, Antwerp, Belgium

WHAT THIS PAPER ADDS

This is the first worldwide survey to show how patient related and duplex ultrasound related factors influence management strategies in varicose veins patient (C2–C6). The identification of these factors may contribute to a more personalized approach in clinical practice.

Table 1. Modifications of basic case vignettes in the survey.

Case vignette 1 (C2SEpAs2,5Pr):
Complaints
Asymptomatic, only cosmetic concern (C2AEpAs2,5Pr)
Patient characteristics
Older age >80 yrs
Gender: female
Peripheral arterial disease (ankle brachial index <0.6)
High body mass index (>40 kg/m^2)
Chronic oral anticoagulant treatment
Clinical findings:
Skin changes: pigmentation (C2,4aSEpAs2,5Pr)
Venous ulceration (C2,6SEpAs2,3,5Pr)
Duplex ultrasound findings
Competent terminal valve
Focal dilatation of GSV above knee (12 mm)
Small diameter of GSV (cut off value determined by participant)
Large diameter of GSV (cut off value determined by participant)
Case vignette 2 (C2SEpAs2,5Pr):
Duplex ultrasound findings:
Diameter of short refluxing segment <5 mm
Diameter of short refluxing segment >8 mm
Length of refluxing GSV segment (cut off value determined by participant)

Table 1. Modifications of basic case vignettes in the survey.

Case vignette 1 (C2SEpAs2,5Pr):
Complaints
Asymptomatic, only cosmetic concern (C2AEpAs2,5Pr)
Patient characteristics
Older age >80 yrs
Gender: female
Length of refluxing GSV segment (cut off value determined by participant)

Table 3. Treatment strategies proposed by the participants for the basic case vignettes (V1 and V2).

Treatment strategies	V1, *n* (%)	V2, *n* (%)
EVTA	43 (20)	16 (8)
EVTA + phlebectomies	73 (35)	67 (32)
EVTA + UGFS of tributaries	17 (8)	9 (4)
Ligation + stripping + phlebectomies	12 (6)	10 (5)
EVTA + ligation	13 (6)	15 (7)
UGFS of GSV + UGFS of tributaries	9 (4)	11 (5)
Single phlebectomies	5 (2)	23 (11)
Alternative	39 (19)	60 (28)

EVTA = endovenous thermal ablation; UGFS = ultrasound-guided foam sclerotherapy; GSV = great saphenous vein.

Factors affecting treatment decision

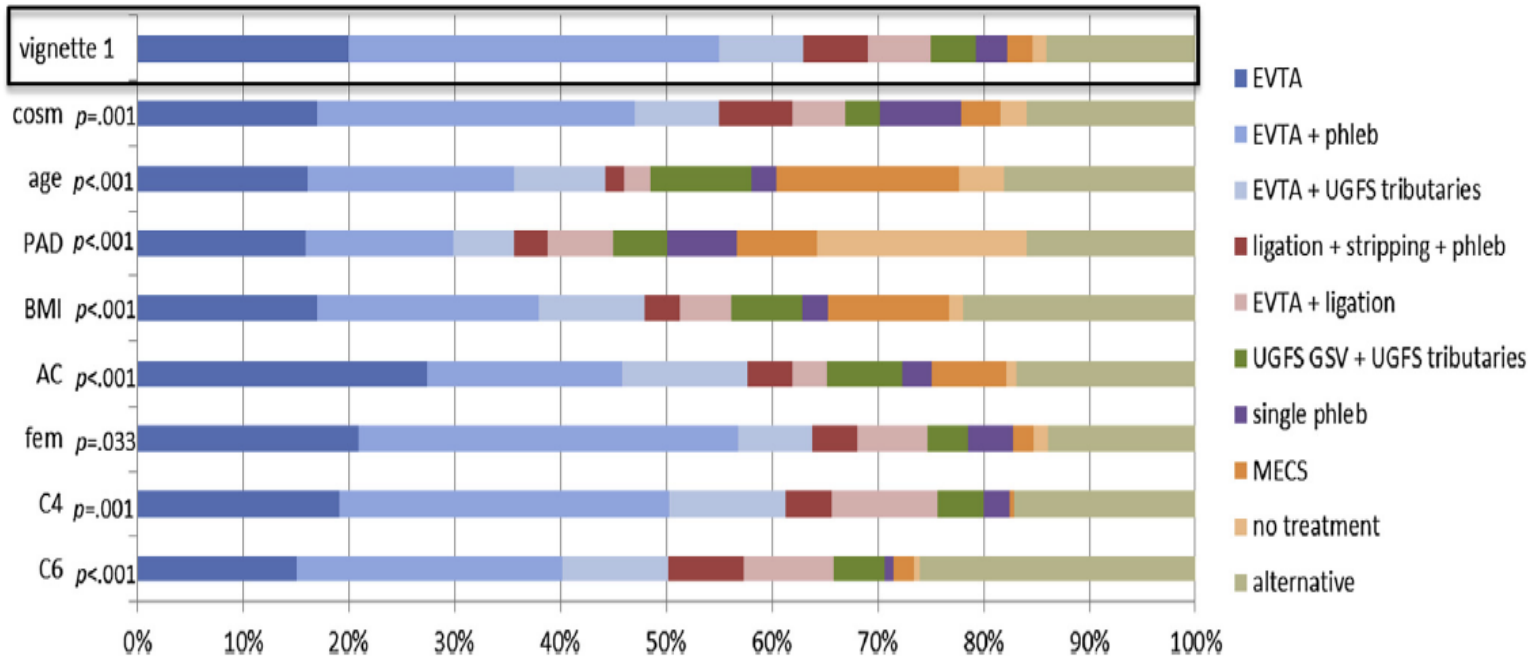

Figure 2. Influence of cosmetic complaints, patient characteristics and clinical findings on management strategy (n = 211). p-values represent the difference in distribution between vignette 1 and modified vignettes (cosm, age, PAD, BMI, AC, fem, C4, C6) and were measured using the Stuart-Maxwell test. cosm = only cosmetic complaints; PAD = peripheral arterial disease; BMI = body mass index; AC = anticoagulant treatment; fem = female gender; EVTA = endovenous thermal ablation; phleb = phlebectomies; UGFS = ultrasound-guided foam sclerotherapy; GSV = great saphenous vein; MECS = medical elastic compression stockings.

Factors affecting treatment decision

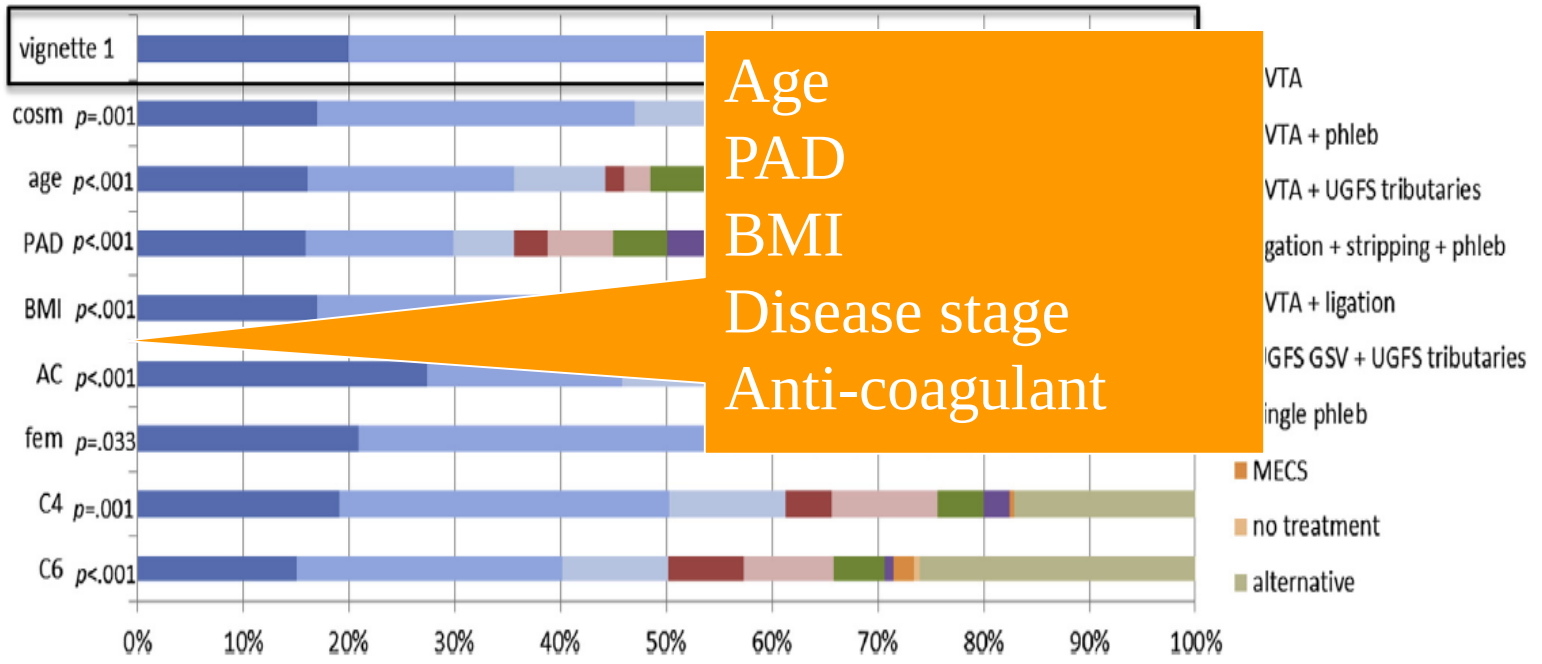

Figure 2. Influence of cosmetic complaints, patient characteristics and clinical findings on management strategy (n = 211). p-values represent the difference in distribution between vignette 1 and modified vignettes (cosm, age, PAD, BMI, AC, fem, C4, C6) and were measured using the Stuart-Maxwell test. cosm = only cosmetic complaints; PAD = peripheral arterial disease; BMI = body mass index; AC = anticoagulant treatment; fem = female gender; EVTA = endovenous thermal ablation; phleb = phlebectomies; UGFS = ultrasound-guided foam sclerotherapy; GSV = great saphenous vein; MECS = medical elastic compression stockings.

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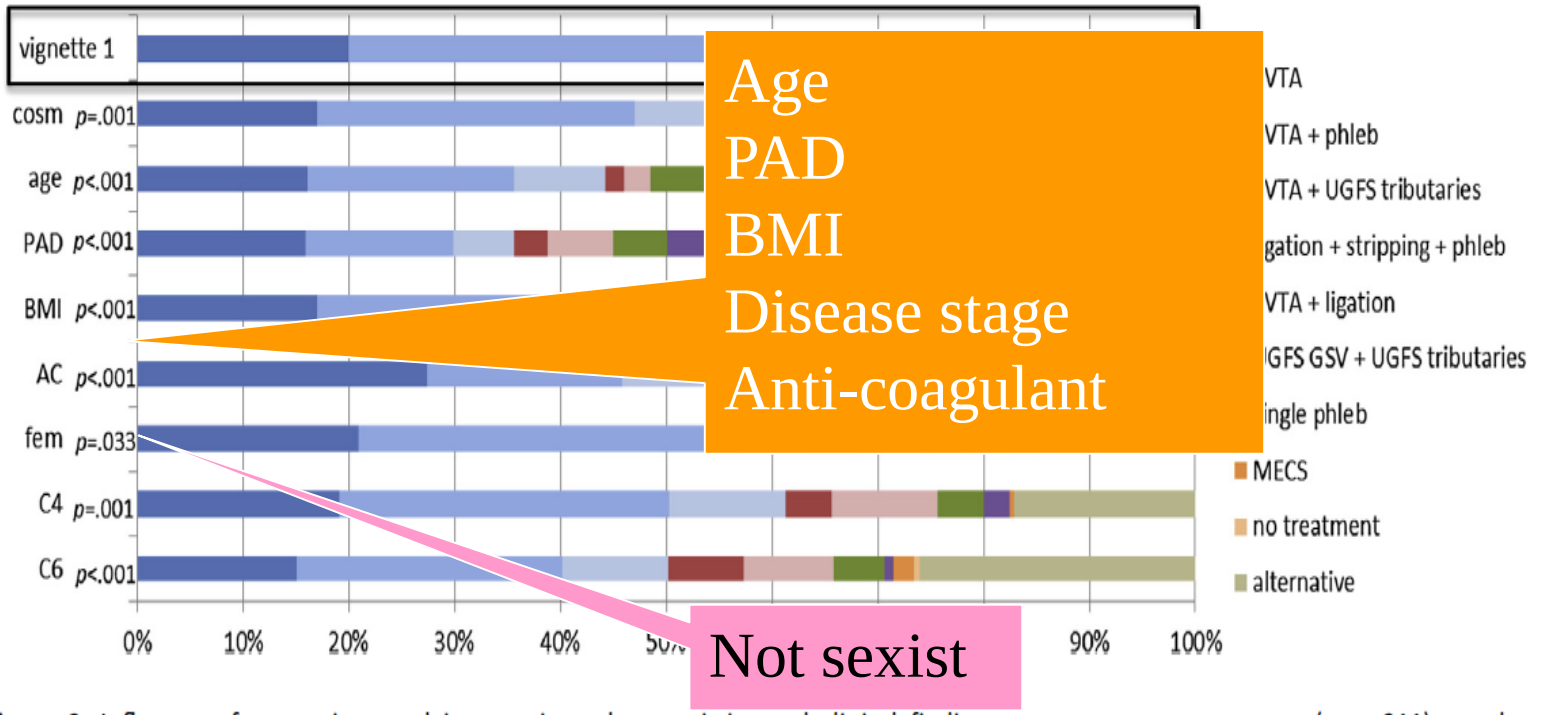

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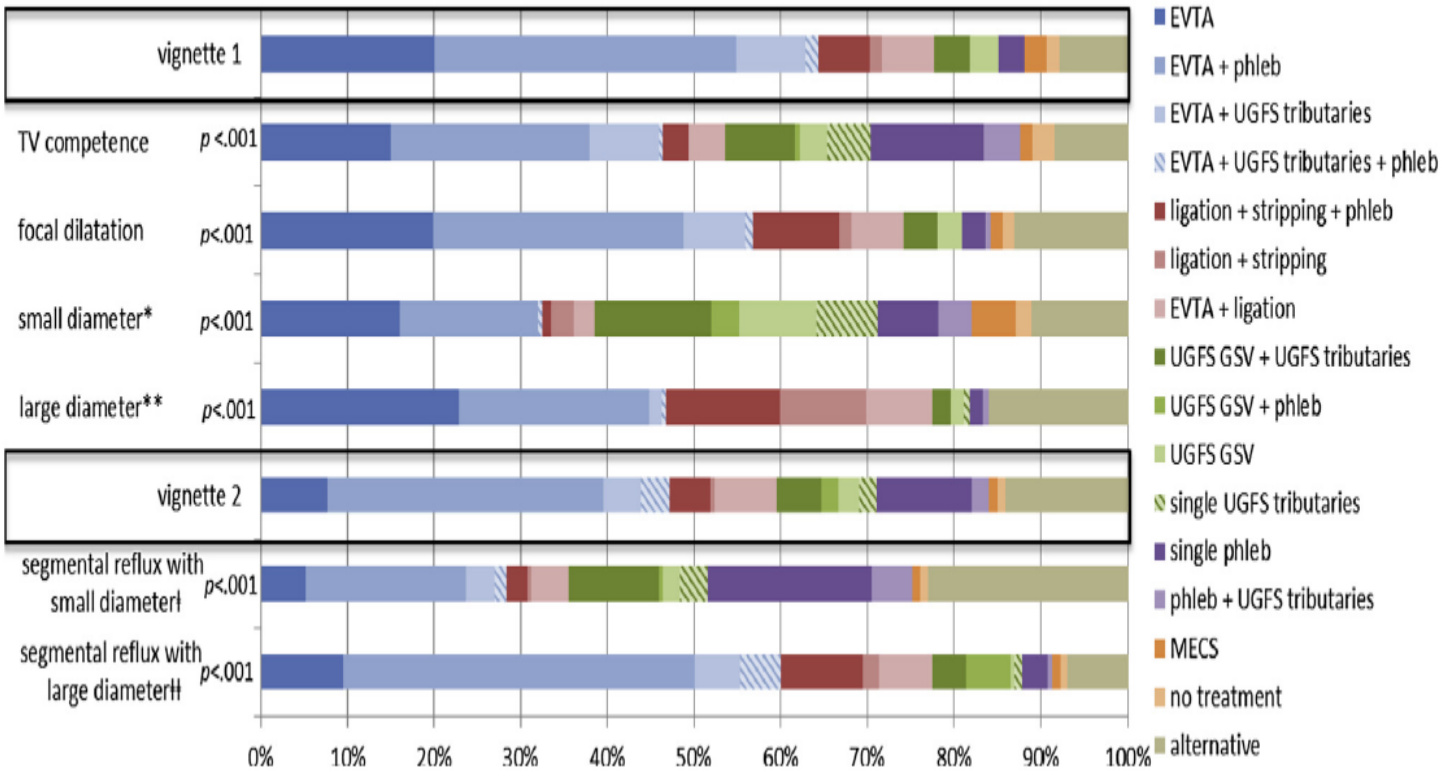
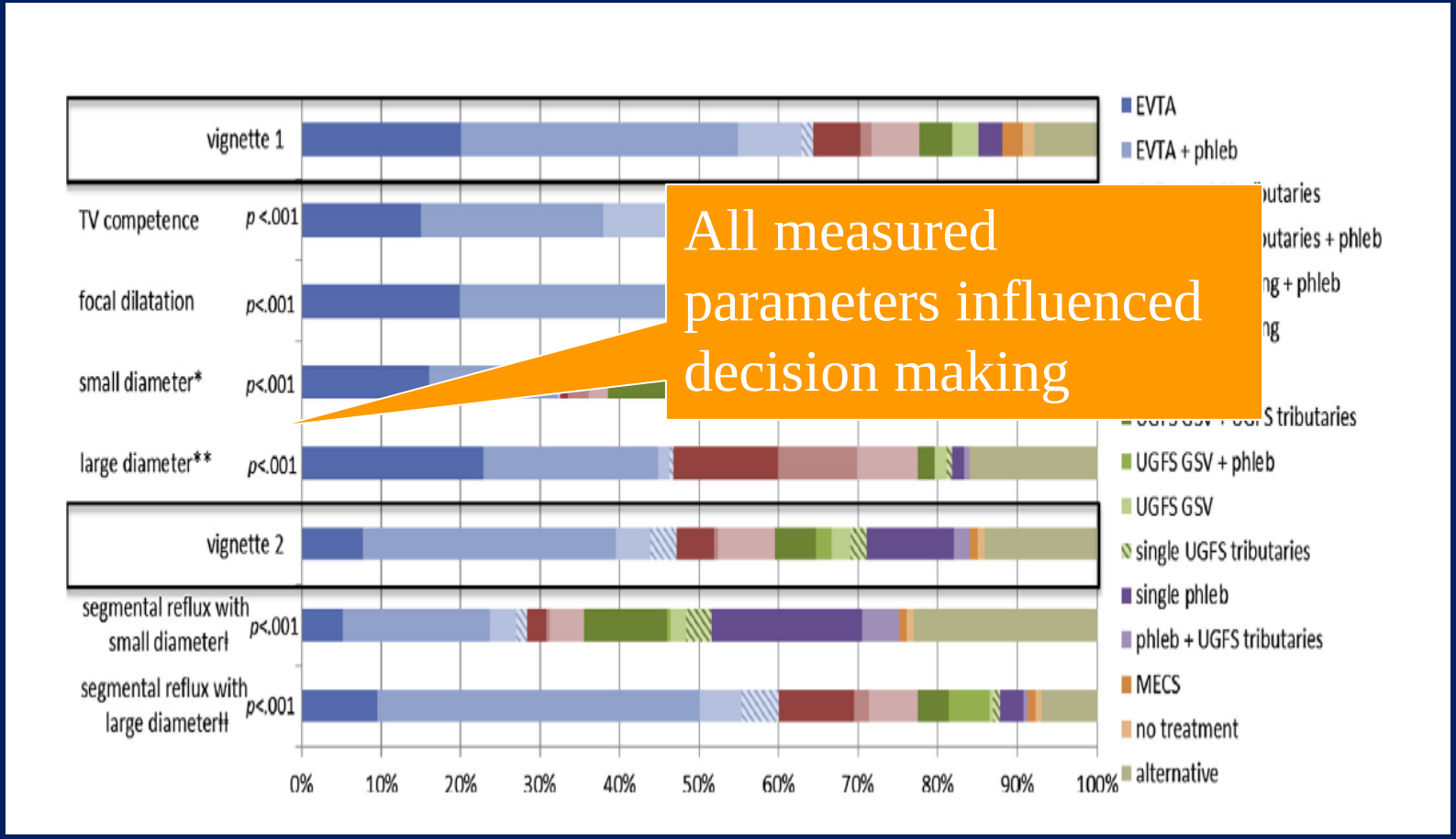
Duplex findings influence on treatment decision



Duplex findings influence on treatment decision



Follow up

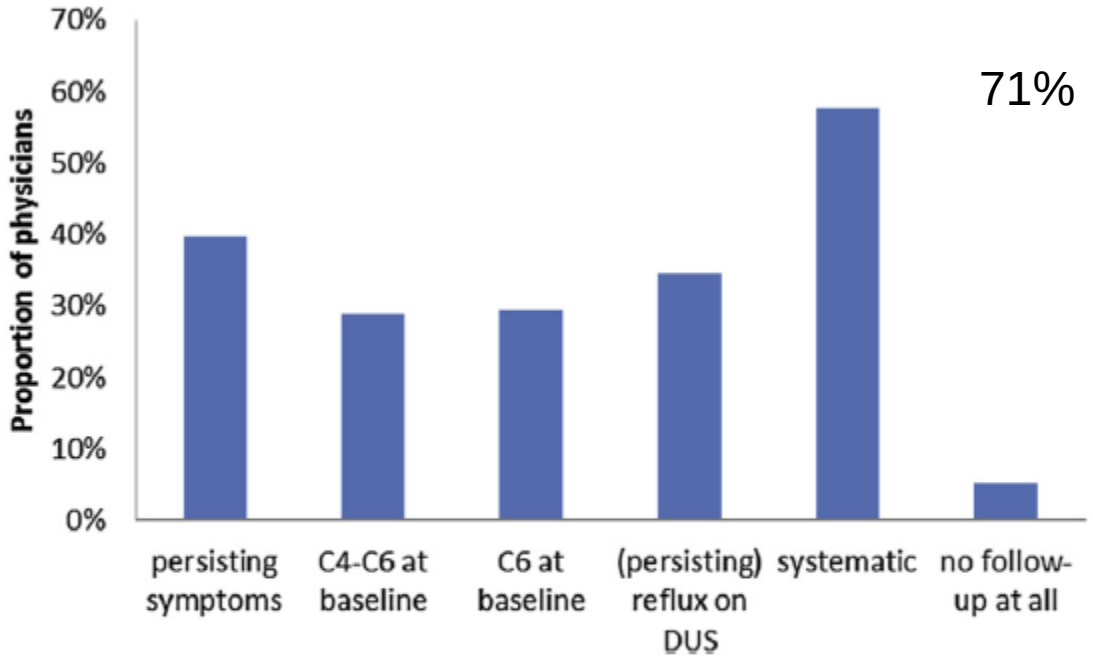


Figure 4. Reasons for further visits after initial follow up. Systematic was defined as "I would schedule patients for further follow up visits, irrespective of symptoms, physical and/or ultrasound examination." DUS = duplex ultrasound.

Residual tributaries

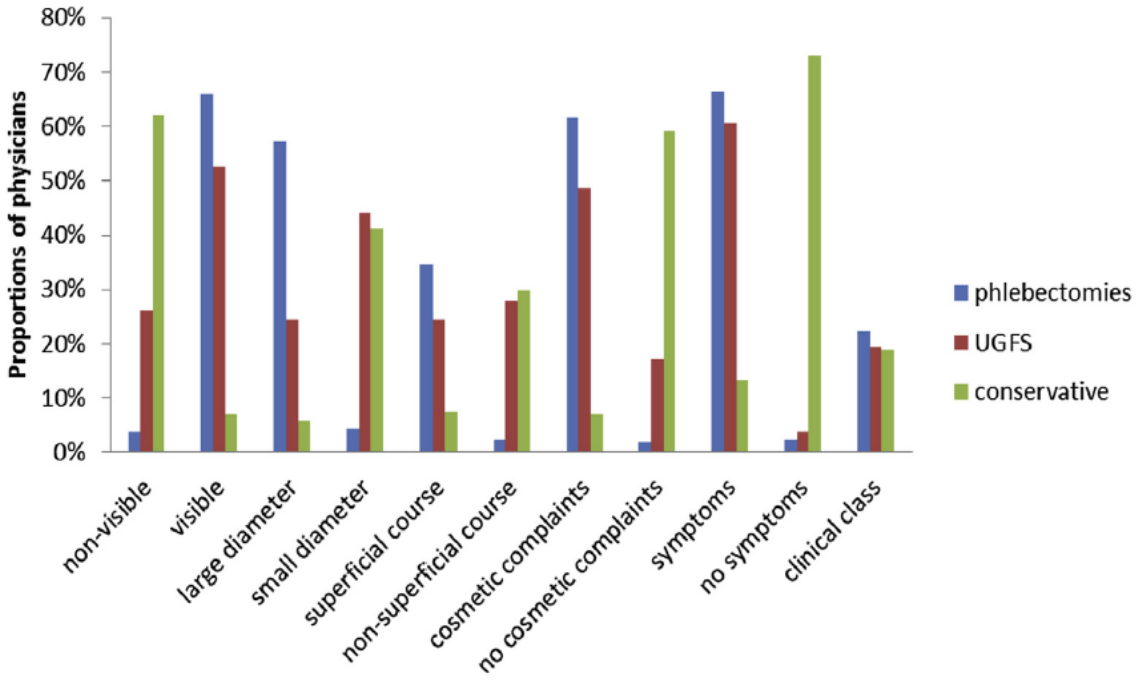
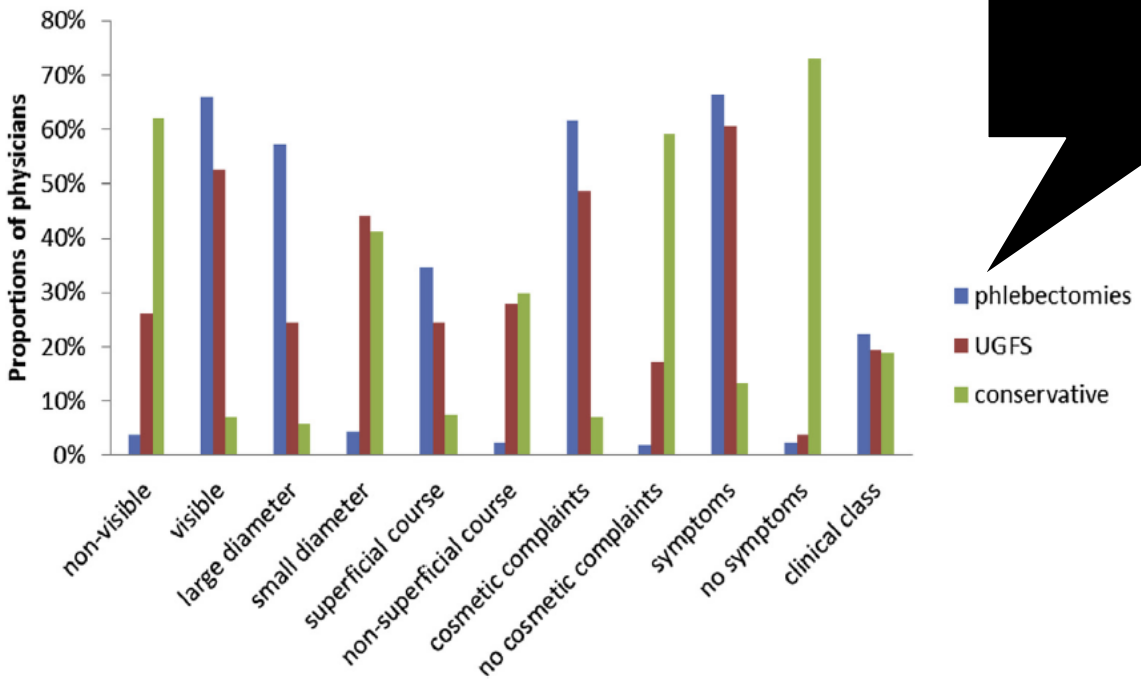


Figure 5. Influence of different characteristics of persisting refluxing tributaries on the preferred management strategy. UGFS = ultrasound-guided foam sclerotherapy.

Residual tributaries

Phlebectomy is King



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[a] Department of Dermatology, Erasmus MC, Rotterdam, The Netherlands
[b] Department
[c] Faculty of M

EVTA is the most common treatment option.

Increasing age associated with more minimalistic treatment.

Increase diameter of GSV associated with terminal valve incompetence and hence greatest influence on treatment choice.

WHAT
This is t
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STUFF YOU
AGREE WITH


STUFF YOU
AGREE WITH


CONFIRMATION
FEEDBACKTOLD
BIAS
NEUTRAL
CONFIRMATION
EXPERIMENTAL
ARGUMENT
JURORS
TRUE
PRIMACY
PREFERENCE
EXPECTATIONS
BIAS
STUDY
PERSON
DIAGNOSTIC
CONCLUSION
CORRELATED
RESEARCH
EARLY
HYPOTHESIS
NEGATIVE
DISCREDITED
SOCIAL
INFORMATION
CONTRADICTORY
CUSTODY
SCIENTIFIC
SERIES
SELECTIVELY
BALL
FALSIFICATION
CONFIRMATORY

NHS
National Institute for Health and Clinical Excellence

Research Recommendations

Key research recommendations

1. In people with varicose veins at CEAP (Clinical, etiological, anatomical and pathophysiological) stage C2 or C3, what are the factors that influence progression of the disease to CEAP stages C5 or C6?

2. What is the clinical and cost effectiveness of compression hosiery versus no compression for the management of symptomatic varicose veins?

3. What is the clinical and cost effectiveness of compression bandaging or hosiery after interventional treatment for varicose veins compared with no compression? If there is benefit, how long should compression bandaging or hosiery be worn for?

4. What is the clinical and cost effectiveness of concurrent phlebectomies or foam sclerotherapy for varicose tributaries during truncal endothermal ablation for varicose veins compared with:
   - truncal endothermal ablation without concurrent phlebectomies or foam sclerotherapy?
   - truncal endothermal ablation with phlebectomies or foam sclerotherapy, if needed, 6–12 weeks later?

5. What is the optimal treatment (compression, surgery, endothermal ablation or foam sclerotherapy) for varicose veins at each of the CEAP stages, that is CEAP stages 2–3, CEAP stage 4 and CEAP stages 5–6?


That's all Folks!