Statement

Phlebology

Coil embolization for the treatment of peripheral veins:

A position statement of the International Union of Phlebology (UIP), the Australasian College of Phlebology (ACP), the Australia and New Zealand Society for Vascular Surgery (ANZSVS), the American Venous Forum (AVF), the American Vein and Lymphatic Society (AVLS), and the Interventional Radiology Society of Australia (IRSA)

Phlebology
0(0) 1–2


Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/0268355520908156
journals.sagepub.com/home/phl


Kurosh Parsi[1,2], Andrew Hill[3], Andrew Bradbury[1], Mark Meissner[1,4,5], Antonios Gasparis[4], Christopher Rogan[2,6] and Andre van Rij[2]

Beneficial treatment options for incompetent saphenous veins, including endovenous thermal ablation, ultrasound-guided foam sclerotherapy and traditional surgery have been established by rigorous randomized clinical trials and recommended by several international evidence-based guidelines.[1–4] There is currently no high-quality evidence to support the use of physical embolic agents,[a] such as coils, to treat axial venous reflux. Accordingly, we recommend against the use of such approaches for the treatment of saphenous incompetence outside of the clinical trial settings (Grade 2C against, Table 1).

Note

a. This statement applies to physical embolic agents only, and not applicable to cyanoacrylate adhesives and other liquid embolic agents.

References

1. National Institute for Health and Care Excellence. *CG168 varicose veins in the legs: the diagnosis and management of varicose veins*. Manchester: NICE, 2013.
2. 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: 2S–48S.
3. Gloviczki P and Gloviczki ML. Guidelines for the management of varicose veins. *Phlebology* 2012; 27: 2–9.
4. Wittens C, Davies AH, Baekgaard N, et al. Editor's choice – management of chronic venous disease: clinical practice guidelines of the European Society for vascular surgery (ESVS). *Eur J Vasc Endovasc Surg* 2015 Jun; 49 (6): 678–737.

[1]International Union of Phlebology (UIP)
[2]Australasian College of Phlebology (ACP)
[3]Australia and New Zealand Society for Vascular Surgery (ANZSVS)
[4]American Venous Forum (AVF)
[5]American Vein and Lymphatic Society (AVLS)
[6]Interventional Radiology Society of Australia (IRSA)

Table 1. Published English language literature on the experience with coils in the treatment of varicose veins.

1	Authors	M.K. Barsoum, H. Bjarnason, T.W. Rooke, F.L. Cindy, J.C. Andrews, T.M. Petterson, M. Aslam, J.A. Heit
	Title	Saphenous vein ablation using catheter-directed coil embolization and sclerotherapy
		Journal of Vascular and Interventional Radiology, February 2009
	Methods	Retrospective cohort study of symptomatic patients with GSV varicosities
		Coil occlusion and alcohol ablation (C&A) treatment for symptomatic GSV with SJI
	Results	n = 176; 8 5% women; 230 legs
		At follow-up DUS (n = 140 legs; median 10 weeks post-treatment), the GSV was occluded in 100 legs, and partially and completely recanalized in 25 and 15 legs, respectively; symptoms (pain, edema, skin changes and ulcer) resolved completely in 191 legs (90%), and partially in three legs
	Complications	Inappropriate coil placement requiring repositioning (n = 4), a small AV fistula (n = 1), flu-like symptoms (n = 2) and superficial phlebitis (n = 7). One patient developed deep vein thrombosis and was treated with Coumadin for three months
2	Authors	Ahmed Kayssi, George Oreopoulos, Kong T. Tan, Jeffrey Jaskolka
	Title	Combined coil embolization and foam sclerotherapy for the management of varicose veins
		Annals of Vascular Surgery, January 2017 and Journal of Vascular Surgery, November 2015
	Methods	Retrospective case-series analysis
		Fluoroscopically guided coil embolization of the GSV and foam sclerotherapy of the GSV and below-knee varices at a single Canadian center
	Results	n = 22, 23 legs
		Most patients (78.3%) presented for follow-up 57.2 ± 21.9 days postoperatively. Doppler studies demonstrated complete GSV occlusion in all patients
	Complications	Three patients (13.6%) noted skin discoloration overlying the treated VVs, none complained of pain on follow-up or developed leg numbness, deep vein thrombosis, or pulmonary emboli
3	Authors	Michel Barsoum, Thom Rooke, Haraldur Bjarnason
	Title	Do we really need a new varicose vein technique?
	Journal	Endovascular Today, April 2008
	Methods	Retrospective study
		Fluoroscopic guided embolization coil (Nester Embolization Coil, Cook Medical, Bloomington, IN) is then placed into the tributary for anchoring and then curled up in the GSV. Subsequently, 5 to 10 mL of absolute alcohol is injected into the vein peripheral to the coils as the catheter is pulled to the introducer sheath
	Results	n = 125 patients, 161 legs with 36 bilateral procedures
		Based on Duplex ultrasonography of 106 legs, the GSV remained occluded in 77 legs; minimal recanalization was noted in six legs. After coil embolization with alcohol sclerosis, symptoms resolved completely in 62 legs and partially resolved in three legs (one patient was lost to follow-up). The three venous ulcers healed, and leg edema was resolved in all cases.
	Complications	One small non-occlusive deep venous thrombosis. Three episodes of coil displacement. All episodes occurred early in our experience, before starting to anchor the first coil into a tributary vein. One of the patients had transient fever and myalgia immediately after the procedure. Symptomatic superficial vein thrombosis was noticed in two of the patients. There were no episodes of pulmonary embolism and no deaths
4	Authors	Marco Viani, Giacomo Viani, Jessiva Sergenti
	Title	One-shot sclero-embolization: a new technique for the treatment of varicose veins disease of lower extremities. Preliminary results
	Journal	Phlebology, December 2014
	Methods	Prospective case series
		Standard platinum coil (0.035″ fibered platinum coil, Boston Scientific) 1 mm wider than the calibre of sapheno-femoral junction in standing position, under echographic control. With sclero-embolization of the great saphenous vein with lauromacrogol 2% foam
	Results	n = 9; two women, seven men; mean age 63.5 years
		Occlusion of the great saphenous vein trunk was immediately obtained in all patients. Painless. Symptoms of varicose veins resolved in all patients peri-operatively
		At three months, complete occlusion of the great saphenous vein was maintained in eight out of nine cases
	Complications	Recanalization of the saphenous shaft in one patient one week after treatment and this was successfully treated with a foam injection
		No instances of coil migration or compression of the common femoral vein at three months follow-up using ultrasonography
		No deep vein thromboses were observed