

EVIDENCE BASED STATEMENT

DOMAIN **04**, Statement **09**

TOPIC: “Marginal vein treatment strategies”

SEARCH TERMS & SOURCES

Query used for the literature search / Search engines used (PubMed, Embase, Cinhal and the Cochrane)
(("Klippel-Trenaunay-Weber Syndrome/drug therapy"[Mesh] OR "Klippel-Trenaunay-Weber Syndrome/surgery"[Mesh] OR "Klippel-Trenaunay-Weber Syndrome/therapy"[Mesh])) OR ("Umbilical Veins/surgery"[Mesh] OR "Umbilical Veins/therapy"[Mesh])

INCLUSION CRITERIA

- Reviews
- Publication < 10 years, only ENG

SEARCH RESULT BEFORE - AFTER SELECTION

12 (before) - 4 (after selection)

PERTINENT LITERATURE NOT IDENTIFIED BY THE LITERATURE SEARCH

1. Stephen E, Kota A, Agarwal S, Selvaraj D, Premkumar P, Ponraj S, et al. Lateral marginal vein: Have we understood its significance? Indian Journal of Vascular and Endovascular Surgery. 2017;4(2):43-5
2. Lee BB. Marginal vein is not a varicose vein; it is a venous malformation. Veins and Lymphatics. 2014;3:4050:64-70
3. Mattassi R, Vaghi M. Management of the marginal vein: current issues. Phlebology. 2007;22(6):283-6. doi: 10.1258/026835507782655218. PMID: 18274336.

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IDENTIFIED REFERENCES

1. Fereydooni A, Nassiri N. Evaluation and management of the lateral marginal vein in Klippel-Trénaunay and other PIK3CA-related overgrowth syndromes. *Journal of vascular surgery Venous and lymphatic disorders*. 2020;8(3):482-93.
2. John PR. Klippel-Trenaunay Syndrome. *Tech Vasc Interv Radiol*. 2019;22(4):100634.
3. Wang SK, Drucker NA, Gupta AK, Marshalleck FE, Dalsing MC. Diagnosis and management of the venous malformations of Klippel-Trénaunay syndrome. *Journal of vascular surgery Venous and lymphatic disorders*. 2017;5(4):587-95.
4. Sgubin D, Kanai R, Di Paola F, Perin A, Longatti P. Conus medullaris-cauda arteriovenous malformation and Klippel-Trenaunay syndrome: what is the treatment goal? *Neurol Med Chir (Tokyo)*. 2013;53(2):110-4.

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TEXT FOR INCLUSION IN THE DOCUMENT

DOMAIN 04, Statement 09, TOPIC: “Marginal vein treatment strategies”

A marginal vein (MV) is an abnormal superficial draining vein of the lower limb, localized on the lateral aspect of the extremity. This vein is a remnant of primitive embryonic vessels and may exist alone or with anomalies of the deep veins.

[Mattassi R, Vaghi M. Management of the marginal vein: current issues. *Phlebology*. 2007;22(6):283-6].

MV can be detected by ultrasound. Of importance during the scan is to note the structure of the deep venous system and the hemodynamics within, as this will determine the therapeutic options that would be offered. If the deep veins are not patent or hypoplastic, the MV maybe the only drainage for the lower limb and hence treating the MV can be detrimental to the limb. Cases of venous gangrene following treatment of MV have been reported in such patients.

***[Lee BB. Marginal vein is not a varicose vein; it is a venous malformation. *Veins and Lymphatics*. 2014;3:4050:64-70.]**

Treatment of a MV depends, on the condition of the deep veins, and the extent and symptomatic complaints of the patient. In cases of adults without symptoms, compression stockings are sometimes recommended.

MVs are located superficially and involve large perforator veins to the deep veins that make successful treatment of the marginal vein increasingly challenging: (1) Sclerotherapy alone may result in extension of the thrombosis to the deep venous system, (2) laser therapy may result in skin scar and painful thrombophlebitis in superficial marginal veins, and (3) closed stripping is risky because of excessive bleeding, hematomas and coexisting vascular anomalies, especially lymphedema. In the past, surgical resection including clear exposure of the veins and ligation of large perforators was recommended.

[Kim YW, Lee BB, Cho JH, Do YS, Kim DI, Kim ES. Haemodynamic and clinical assessment of lateral marginal vein excision in patients with a predominantly venous malformation of the lower extremity. *Eur J Vasc Endovasc Surg*. 2007;33(1):122–7.]

Due to its extremely superficial location beneath the skin, the endovascular obliteration using the laser or radiofrequency is seldom technically applicable. Foam sclerotherapy and endoablation are associated with a risk of fatal PE and skin ulceration due to the subcutaneous nature of the vein. These procedures are also large quantities of foam and high energy for thermal ablation due to the sheer size of the MV leading to higher morbidity. Coil embolization to occlude the vein requires a large number of coils and has been known to lead to PE due to the coils dislodging from a valveless vein.

[Stephen E, Kota A, Agarwal S, Selvaraj D, Premkumar P, Ponraj S, et al. Lateral marginal vein: Have we understood its significance? *Indian Journal of Vascular and Endovascular Surgery*. 2017;4(2):43-5.]

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STATEMENT FOR PUBLIC EVIDENCE-BASED AWARENESS

DOMAIN 04, Statement 09

“a pre-operative careful evaluation is mandatory before treatment of veins along the lateral side of the leg since it could represent a venous malformation”

4 SELECTED REFERENCES

1. Mattassi R, Vaghi M. Management of the marginal vein: current issues. *Phlebology*. 2007;22(6):283-6
2. *Lee BB. Marginal vein is not a varicose vein; it is a venous malformation. *Veins and Lymphatics*. 2014;3:4050:64-70
3. Kim YW, Lee BB, Cho JH, Do YS, Kim DI, Kim ES. Haemodynamic and clinical assessment of lateral marginal vein excision in patients with a predominantly venous malformation of the lower extremity. *Eur J Vasc Endovasc Surg*. 2007;33(1):122–7
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identified LITERATURE BIAS

Lack of head to head comparison among different techniques for marginal vein treatment

SUGGESTED NEXT LINES OF RESEARCH

Best technique for marginal vein treatment